# Nikon

# Nikon Capture 4

## User's Manual

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- While every effort has been made to ensure that the information in these manuals is accurate and complete, we would appreciate it were you to bring any errors or omissions to the attention of the Nikon representative in your area (address provided separately).

## Package Contents

Before using this product, check that the package contains the items listed below.  Contact your retailer or local Nikon representative should you find that any of these items are missing or damaged.

- Nikon Capture 4 installer CD
- *Nikon Capture 4 Install Guide*

- *Nikon Capture 4 User's Manual* (this manual)
- User registration card (USA only)

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**WARNING!**

*Do not play the Nikon Capture 4 installer CD on audio CD equipment.  Playing a CD-ROM on an audio CD player could cause hearing loss or damage the equipment.*

# Table of Contents

# Introduction

Read this chapter before installing and using Nikon Capture 4.

*Overview*
Read this section for a description of how this manual is organized and for an explanation of the symbols and conventions used.

*The Five Components of Nikon Capture 4*
This section describes the components that make up Nikon Capture 4 and introduces some of its more notable features.

*System Requirements*
Before installing Nikon Capture 4, check that your computer system meets the requirements listed in this section.

*Workflow*
This section explains how Nikon Capture's various components work together when processing photographs taken in the field or in a studio setting, and how batch processing can be used to edit multiple images.

# Overview

*About This Manual*

This manual has been written to help you take advantage of the many features included in Nikon Capture 4. This chapter introduces you to Nikon Capture's five components and explains how they can be used as part of different workflows. Each of these components is described in greater detail in the chapters that follow. The final chapter, "Technical Notes," includes information on how Nikon Capture can be used with other applications that support color management, together with troubleshooting instructions and a glossary of terms.

Before using Nikon Capture 4, you should know how Nikon Capture fits into your particular workflow, and what components and functions you will need. You can then refer to the chapters on the relevant functions as needed to complete each task.

**Symbols and Conventions**
The following symbols and conventions are used in this manual:

| | | | |
|---|---|---|---|
| ✔ | This icon marks cautions, information that you should read before use to prevent possible damage to your camera or computer. | 🖉 | This icon marks notes, information that you should read before using this software. |
| 🔍 | This icon marks tips, additional information you may find helpful when using this software. | 🔁 | This icon indicates that more information is available elsewhere in this manual. |
| Menu items and button names are shown in **bold**. | | | |

🔍 **Life-Long Learning**
As part of Nikon's "Life-Long Learning" commitment to ongoing product support and education, continually-updated information is available on-line at the following sites:
• For users in the U.S.A.: *http://www.nikonusa.com/*
• For users in Europe: *http://www.europe-nikon.com/support*
• For users in Asia, Oceania, the Middle East, and Africa: *http://www.nikon-asia.com/*
Visit these sites to keep up-to-date with the latest product information, tips, answers to frequently-asked questions (FAQs), and general advice on digital imaging and photography. Additional information may be available from the Nikon representative in your area.

**Background Knowledge**
This manual assumes knowledge of operations common to Windows and Macintosh environments.  Refer to the documentation provided with your computer for more information on operations specific to your operating system.

**Illustrations**
This manual is for use with both Windows and Macintosh versions of Nikon Capture 4.  While the majority of the illustrations in this manual show the Windows versions, save where otherwise noted the operations described apply to both operating systems.  Depending on the operating system used, dialogs and menus may differ slightly from those shown here.

**The ReadMe File**
Be sure to read the ReadMe file on the Nikon Capture 4 installer CD, as it may contain important information that could not be included in this manual.

🖉 **Camera Control for D100 Cameras (Macintosh)**
Before using Nikon Capture 4 Camera Control with a D100 digital camera under Mac OS 9 or Mac OS X, confirm that the camera firmware is version 2.00 or later.  Users of earlier versions will need to upgrade the camera firmware before using Nikon Capture 4 Camera Control.  Contact a Nikon-authorized service representative for information on firmware upgrades.

🖉 **Windows XP Home Edition/Professional, Windows 2000 Professional, Mac OS X**
Installing and using Nikon Capture 4 under a multi-user operating system requires Administrator privileges.  When using Nikon Capture 4, log in as:

| | |
|---|---|
| **Windows XP Home Edition/Professional** | Computer administrator |
| **Windows 2000 Professional** | Administrators |
| **Mac OS X** | Admin |

# The Five Components of Nikon Capture 4

*About This Product*

Thank you for your purchase of Nikon Capture 4 software for Nikon digital cameras. The Nikon Capture 4 CD contains both Nikon View 6 and Nikon Capture 4. Nikon View 6 is comprised of three components: Nikon Transfer, which is used to copy pictures from the camera memory card to the computer hard disk; Nikon Browser, which is used to browse images after they have been transferred to your computer, and Nikon Viewer, which is used to view images. Nikon Capture 4 contains an additional two components: Nikon Capture 4 Editor, which is used to enhance photographs after shooting, and Nikon Capture 4 Camera Control, which is used to control D1-series, D100, or D2H digital cameras remotely while they are connected to the computer. Using these five components, you can transfer pictures to your computer, view and edit them, and print them all in a single process.

**Existing pictures**

### Nikon Transfer

Starts automatically when a supported Nikon digital camera is connected, or a memory card from a supported Nikon digital camera inserted in a card reader or PC card slot. Use to transfer pictures from the camera to your computer hard disk. Once transferred, pictures can be previewed in Nikon Browser.

**D1-series, D100, or D2H camera connected to computer**

### Nikon Capture 4 Camera Control

Use with a Nikon D1, D1x, D1H, D100, or D2H digital camera to control the camera from your computer and save photos directly to disk as they are taken.

····▶ Data flow

**Nikon Viewer**



Use to view and print pictures.

**Nikon Browser**
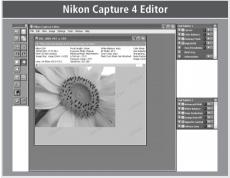


Nikon Browser comes into play after you have transferred pictures to your computer hard disk using Nikon Transfer or Nikon Capture 4 Camera Control. Use to organize pictures into folders and select pictures for viewing in Nikon Viewer or editing in Nikon Capture 4 Editor.

**Nikon Capture 4 Editor**



Use to enhance photographs taken with Nikon digital cameras.

# System Requirements

*What You Need to Run Nikon Capture 4*

Before installing Nikon Capture 4, make sure that your system satisfies the following requirements:

| | | Windows | Macintosh |
|---|---|---|---|
| **OS** | | Pre-installed versions of Windows XP Home Edition, Windows XP Professional, Windows 2000 Professional, Windows Millennium Edition (Me), Windows 98 Second Edition (SE) | Mac OS 9.0.4*, 9.1*, 9.2*, Mac OS X (version 10.1.5 or later) |
| **CPU/Model** | | 300 MHz Pentium or better | iMac, iMac DV, Power Mac G3 (Blue & White), Power Mac G4 or later, iBook, PowerBook G3 or later |
| **RAM (Nikon Capture 4)** | | • Windows, Mac OS X: 128 MB (256 MB or more recommended)<br>• Mac OS 9: memory allocation of 32 MB or more to Nikon Capture 4 Camera Control, 256 MB or more to Nikon Capture 4 Editor | |
| **RAM (Nikon View 6)** | | 64 MB (128 MB with RAW images) or more recommended. | |
| **Hard-disk space** | | 200 MB required for installation, with additional free disk space of 10 MB plus an amount equal to double the capacity of camera memory card available on system disk when Nikon Capture 4 is running. | |
| **Video resolution** | | 800×600 pixels or more with 16-bit color (High Color/thousands of colors). 24-bit color (True Color/millions of colors) recommended. | |
| **Interface** | **IEEE 1394†** | **O**pen **H**ost-**C**ontroller **I**nterface (OHCI) compliant IEEE 1394 interface board or card‡ required for connection to D1, D1x, and D1ʜ | Built-in IEEE 1394 (FireWire) interface required for connection to D1, D1x, and D1ʜ |
| | **USB\*\*** | Built-in USB interface required for connection to D100, D2H, and COOLPIX-series cameras with USB interface. Direct connection to other COOLPIX-series cameras not supported. | RATOC REX-PCIU3 USB interface board (USB 2.0; Mac OS X only) or built-in USB interface required for connection to D100, D2H, and COOLPIX-series cameras with USB interface. Direct connection to other COOLPIX-series cameras not supported. |
| **Supported cameras** | | • All functions, including Camera Control: D1, D1x, D1ʜ, D100††, and D2H<br>• All functions except Camera Control: USB-equipped COOLPIX cameras | |
| **Other** | | • CD-ROM drive required for installation<br>• Internet connection required for upload to the Web; e-mail program required when sending pictures by e-mail | |

\* With CarbonLib version 1.6 or later.

† The camera may not function as expected when connected to an IEEE 1394 hub.

‡ A list of boards and cards that have been tested and approved for use with the D1, D1x, and D1ʜ is available on-line (🔧 2).

\*\* The camera may not function as expected when connected to a USB hub or keyboard.

†† Camera firmware version 2.00 or later.

## Installation

For information on installing Nikon Capture 4, see the *Nikon Capture 4 Install Guide*.

🖉 **Windows XP Home Edition/Professional, Windows 2000 Professional, Mac OS X**

Installing and using Nikon Capture 4 under a multi-user operating system requires Administrator privileges.  When using Nikon Capture 4, log in as:

| | |
|---|---|
| **Windows XP Home Edition/Professional** | Computer administrator |
| **Windows 2000 Professional** | Administrators |
| **Mac OS X** | Admin |

🖉 **Mac OS 9.0**

If you are using Mac OS 9.0, use the Software Update control panel to update to the latest version of CarbonLib before beginning installation.
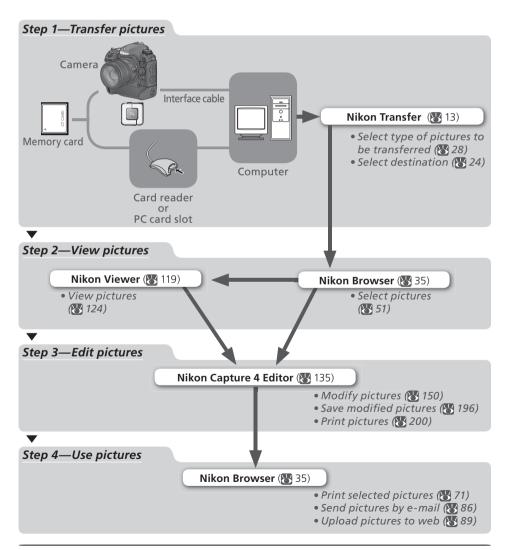
# Workflow

*Using Nikon Capture 4*

How you will use Nikon Capture's various components depends on whether you are taking photographs in the field or in a studio with a D1, D1x, D1H, D100, or D2H connected to a computer. Regardless of where you take your photographs, Nikon Capture 4's batch option can be used to process multiple images automatically.
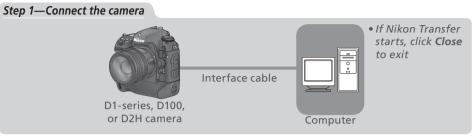
## Workflow 1: Field Photography
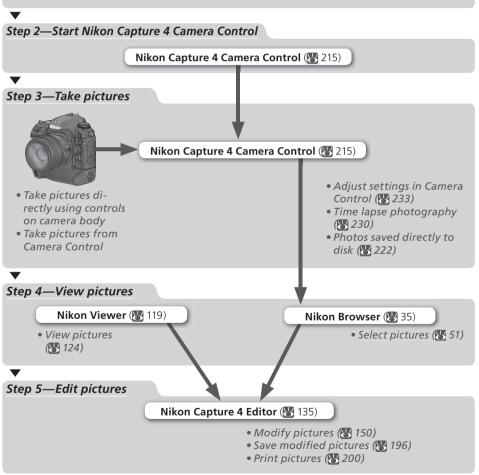
This workflow is for users of D1-series, D100, D2H, or COOLPIX cameras taking photographs in the field, away from their computers.

### Step 1—Transfer pictures

Camera

Interface cable

Memory card

Card reader
or
PC card slot

Computer

**Nikon Transfer** ( 13)

• *Select type of pictures to be transferred ( 28)*
• *Select destination ( 24)*

### Step 2—View pictures

**Nikon Viewer** ( 119)

• *View pictures ( 124)*

**Nikon Browser** ( 35)

• *Select pictures ( 51)*

### Step 3—Edit pictures

**Nikon Capture 4 Editor** ( 135)

• *Modify pictures ( 150)*
• *Save modified pictures ( 196)*
• *Print pictures ( 200)*

### Step 4—Use pictures

**Nikon Browser** ( 35)

• *Print selected pictures ( 71)*
• *Send pictures by e-mail ( 86)*
• *Upload pictures to web ( 89)*

## Workflow 2: Studio Photography
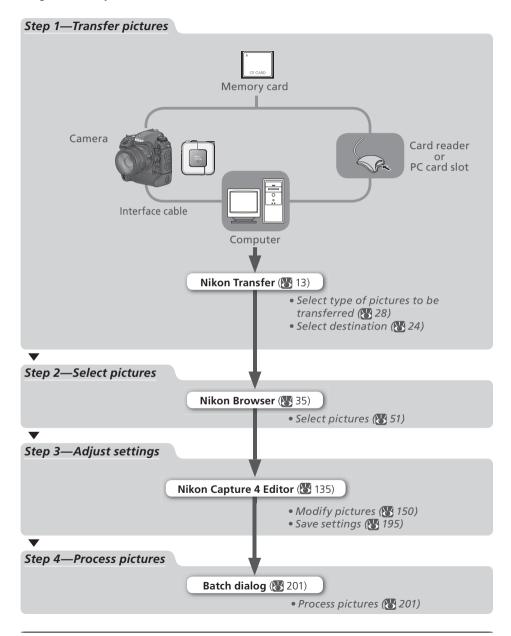
This workflow is for users of D1-series, D100, or D2H cameras who want to capture photographs directly to their computer as they are taken.

*Step 1—Connect the camera*

Interface cable

D1-series, D100, or D2H camera

Computer

• *If Nikon Transfer starts, click **Close** to exit*

▼

*Step 2—Start Nikon Capture 4 Camera Control*

**Nikon Capture 4 Camera Control** (🔲 215)

▼

*Step 3—Take pictures*

**Nikon Capture 4 Camera Control** (🔲 215)

• *Take pictures directly using controls on camera body*
• *Take pictures from Camera Control*

• *Adjust settings in Camera Control (🔲 233)*
• *Time lapse photography (🔲 230)*
• *Photos saved directly to disk (🔲 222)*

▼

*Step 4—View pictures*

**Nikon Viewer** (🔲 119)

• *View pictures (🔲 124)*

**Nikon Browser** (🔲 35)

• *Select pictures (🔲 51)*

▼

*Step 5—Edit pictures*

**Nikon Capture 4 Editor** (🔲 135)

• *Modify pictures (🔲 150)*
• *Save modified pictures (🔲 196)*
• *Print pictures (🔲 200)*

## Workflow 3: Batch Processing (Existing Images)
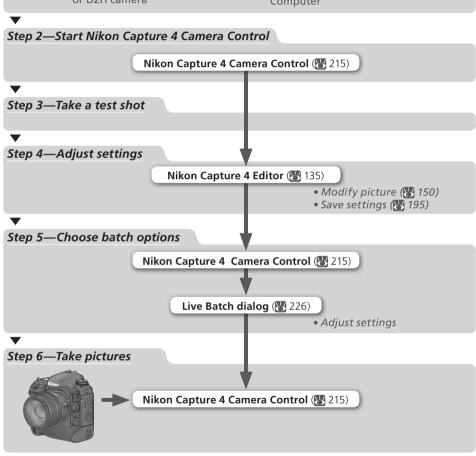
Nikon Capture 4 includes a batch option for automatic processing of multiple images, either as they are captured from a D1-series, D100, or D2H camera (see Workflow 4), or after they have been saved to disk using Nikon Transfer or Nikon Capture 4 Camera Control. To process images after they have been saved to disk:

### *Step 1—Transfer pictures*

Memory card

Camera

Card reader
or
PC card slot

Interface cable

Computer

**Nikon Transfer** (📘 13)

- *Select type of pictures to be transferred (📘 28)*
- *Select destination (📘 24)*

### *Step 2—Select pictures*

**Nikon Browser** (📘 35)

- *Select pictures (📘 51)*

### *Step 3—Adjust settings*

**Nikon Capture 4 Editor** (📘 135)

- *Modify pictures (📘 150)*
- *Save settings (📘 195)*

### *Step 4—Process pictures*

**Batch dialog** (📘 201)

- *Process pictures (📘 201)*

## Workflow 4: Batch Processing (Studio Photography)

To process photographs automatically as they are captured from the camera ("live batch"):

### Step 1—Connect the camera

Interface cable

D1-series, D100,
or D2H camera

Computer

• *If Nikon Transfer starts, click **Close** to exit*

▼

### Step 2—Start Nikon Capture 4 Camera Control

**Nikon Capture 4 Camera Control** (🔳 215)

▼

### Step 3—Take a test shot

▼

### Step 4—Adjust settings

**Nikon Capture 4 Editor** (🔳 135)

• *Modify picture (🔳 150)*
• *Save settings (🔳 195)*

▼

### Step 5—Choose batch options

**Nikon Capture 4  Camera Control** (🔳 215)

**Live Batch dialog** (🔳 226)

• *Adjust settings*

▼

### Step 6—Take pictures

**Nikon Capture 4 Camera Control** (🔳 215)

# Nikon Transfer

*Copying Pictures to Your Computer*

Nikon Transfer is used to transfer (copy) pictures from the camera memory card to your computer. When transferring pictures, Nikon Transfer allows you to select the type of images to be transferred, choose transfer options, specify the destination folder for transferred images, and choose how transferred images will be named on the computer.

This chapter is divided into the following two sections:

### The Nikon Transfer Window
This section outlines the controls and displays in the Nikon Transfer window, and describes how to start, exit, and restart Nikon Transfer.

### Transferring Images
Read this section for instructions on transferring images from a camera memory card to a folder of your choice on your computer.

# The Nikon Transfer Window

*Getting to Know Nikon Transfer*

The main parts of the Nikon Transfer window are identified below.

**File destination and naming**
The destination folder and file naming method for transferred images are displayed in this area. To change the destination and file naming options, click **Change...** (📖 24).

**Image Transfer rule**
Specifies the type of pictures that will be transferred from the memory card currently inserted in the camera, card reader or PC card slot (📖 28).

| Button | Name | Function | 👁 |
|---|---|---|---|
| 🔧 | **Transfer options** | Specify the actions to be performed when pictures are transferred. | 29 |
| ℹ | **Add additional information (IPTC field) to images** | Specify the information that will be added to pictures as they are transferred. | 33 |
| ❓ | **Help** | View help. | — |
| Change... | **Change…** | Choose the type of pictures to be transferred and change file destination and naming. | 24 |
| 〰 | **Transfer** | Transfer to the computer all pictures of the type selected in the Image transfer rule menu. | 22 |
| Close | **Close** | Close the Nikon Transfer window. | 16 |

✐ **The Menu Bar (Macintosh)**
The Macintosh version has a menu bar containing commands that replicate the functions of the buttons in the Nikon Transfer window. No menus are available in the Windows version.
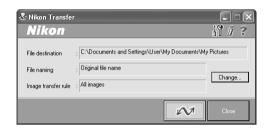
✐ **Mac OS X**
Before connecting the camera for the first time, change Image Capture settings as described on page 115 of the *Nikon Capture 4 Install Guide*.

## Starting Nikon Transfer

Nikon Transfer starts automatically when a supported camera is connected or a memory card from a supported camera is inserted in a card reader or PC card slot.

**1** Connect the camera or insert the memory card
Connect a camera containing a memory card from a supported camera, or insert a memory card from a supported camera in a card reader or PC card slot. For more information, see the *Nikon Capture 4 Install Guide*.

**2** Nikon Transfer will start automatically



### 🖉 Auto Launch
Nikon Transfer will only start automatically if **Auto launch when connected to a camera or a card** (the default option) is selected in the "Auto Launch" tab of the Nikon Browser or Nikon Viewer Preferences dialog (🔆 105).

### 🖉 Starting Nikon Transfer from Nikon Browser
Nikon Transfer can also be started by selecting **Launch Nikon Transfer…** from the **Tools** menu in Nikon Browser.

### 🖉 Starting Nikon Transfer on a Macintosh
When Nikon Transfer is started by connecting a camera or inserting a memory card in a card reader or PC card slot, Nikon Browser will also start automatically.

### 🖉 The Removable Disk Dialog (Windows XP Home Edition/Windows XP Professional)

When a camera is connected to a computer running Windows XP Home Edition or Windows XP Professional, or a memory card is inserted in a card reader or card slot connected to a computer running Windows XP Home Edition or Windows XP Professional, a Removable Disk dialog may be displayed. Select **Copy pictures to a folder on my computer using Nikon View 6** and click **OK** to display the Nikon Transfer window. For more information on the Removable Disk dialog, see pages 30–31 of the *Nikon Capture 4 Install Guide*.
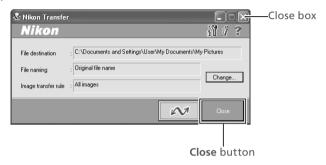


Mass Storage



PTP

## Exiting Nikon Transfer

The Nikon Transfer window will close automatically when transfer is complete, and the Nikon Browser window will be displayed.  To close the Nikon Transfer window without transferring pictures:

1 **Click the** Close **button or click the close box**
Click the Close button in the Nikon Transfer window, or click the close box in the title bar at the top of the window.

Close box

Close button

2 **The Nikon Browser window will be displayed**
Closing the Nikon Transfer window starts Nikon Browser (Windows) or activates the Nikon Browser window (Macintosh).

✐ **Quitting Nikon Transfer (Macintosh)**
The Macintosh version of Nikon View 6, you can quit Nikon Transfer from the program menus.  In Mac OS 9, select **Quit** from the **File** menu.  In Mac OS X, select **Quit Nikon View 6** from the application menu.

| File | |
|---|---|
| **Transfer** | ⌘T |
| New Folder... | ⌘N |
| View... | ⌘O |
| **Close** | **⌘W** |
| Edit | ⌘E |
| **Edit using other program** | ▶ |
| Rename a file or a folder... | |
| Move... | |
| Copy... | |
| Close Displayed Image | |
| Delete | ⌘⌫ |
| **Delete Sound** | |
| Page Setup... | |
| Print... | ⌘P |
| Play Sound... | |
| **IPTC Information...** | **⌘J** |
| **Tag marking** | ▶ |
| **Attribute** | ▶ |
| **Quit** | **⌘Q** |

Mac OS 9

| Nikon View 6 |  |
|---|---|
| About Nikon View 6... | |
| Preferences... | ⌘K |
| Services | ▶ |
| Hide Nikon View 6 | ⌘H |
| Hide Others | ⌥⌘H |
| Show All | |
| Quit Nikon View 6 | ⌘Q |

Mac OS X

✐ **Disconnecting the Camera**

For information on disconnecting the camera, see the *Nikon Guide to Digital Photography* or *User's Manual* provided with your camera.

✐ **Warnings**

If you perform the following actions when Nikon Transfer is running, a warning will be displayed. Click **OK** to exit Nikon Transfer.

The following warning will be displayed if you disconnect the camera or card reader or turn the camera off while Nikon Transfer is running:



The following warning will be displayed if you remove the memory card from the card reader or card slot while Nikon Transfer is running:
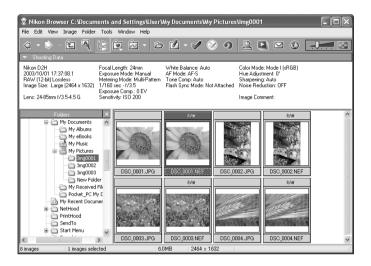
## Restarting Nikon Transfer

How you can restart Nikon Transfer after exiting depends on whether the camera is still connected and powered on and/or the memory card still inserted in the camera, card reader, or PC card slot.

**If the camera is still connected and/or the memory card in place:**

**1** Start Nikon Browser ( 38)



**2** Select **Launch Nikon Transfer…** from the **Tools** menu



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🖉 **Mac OS X**

Users of Mac OS X will not be able to transfer pictures if Nikon Transfer is started by selecting **Launch Nikon Transfer…** from the **Tools** menu in Nikon Browser. To start Nikon Transfer when the camera is still connected, turn the camera off and then on again. If you are using a card reader or PC card slot, remove and reinsert the memory card.

**If the camera has been turned off:**
Turn the camera on.

**If the camera has been disconnected:**
Reconnect the camera and turn the camera on.

**If the memory card has been removed from the camera:**
Reinsert the memory card and turn the camera on.

**If the memory card has been removed from the card reader or PC card slot:**
Reinsert the memory card.

Nikon Transfer will start automatically.

# Transferring Images

*Using Nikon Transfer*

This section describes how Nikon Transfer can be used to transfer pictures to your computer from a memory card inserted in a camera, card reader, or PC card slot.

| Choose the type of pictures to be transferred and change file destination and naming. 🐰 24 | **Open the File Destination and Naming dialog** ⛺ 24 |
|---|---|

| Choose image transfer options. 🐰 29 | **Open the Transfer Options dialog** ⛺ 29 |
|---|---|

| Add file information. 🐰 33 | **Open the IPTC Information dialog** ⛺ 33 |
|---|---|

| Transfer pictures. 🐰 22 |
|---|

1 **Choose the type of picture to be transferred, the destination, and naming rules**
Before transferring pictures, click **Change…** to choose the type of picture to be transferred, the folder in which pictures will be stored, and how transferred files will be named (🐰 24).

| File destination | : C:\Documents and Settings\User\My Documents\My Pictures |
| File naming | : Original file name |
| Image transfer rule | : All images |

"File destination and naming" area

*File destination*
This text box lists the current destination for transferred pictures. The default folder at installation is:

*Windows*
…\My Documents\My Pictures
(If the My Documents folder does not contain a My Pictures folder, pictures will be transferred to My Documents.)

*Mac OS 9*
Documents

*Mac OS X*
Pictures

*File naming*
You can choose either to transfer pictures to the computer using the file names originally assigned by the camera ("Original file name") or to assign pictures a new, automatically generated name as they are transferred ("Automatically generated name"). By default, pictures will keep the file name originally assigned by the camera.
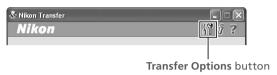
*Image transfer rule*
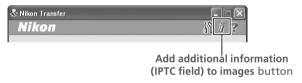Choose the type of pictures to be transferred. At default settings, all pictures will be transferred.

2 Choose image transfer options
By default, the folder containing the transferred images will automatically be displayed in Nikon Browser when transfer is complete. Nikon View allows you to display images in a different application, choose an image database application for cataloging images as they are transferred, and adjust transfer settings. Changes to these transfer options are made in the Transfer Options dialog. To display the Transfer Options dialog, click the **Transfer Options** button in the Nikon Transfer window before transfer. For more information, see "Transfer Options" (🐢 29).

**Transfer Options** button

3 Add file information
By default, information on camera settings at the time the image was created is included with each image transferred to your computer. If desired, you can specify additional information to be included with all transferred images. To do so, select **Add additional information (IPTC field) to all files** in the Transfer tab of the Transfer Options dialog (see Step 2) and then click the **Add additional information (IPTC field) to images** button in the Nikon Transfer dialog. For more information, see "IPTC Information" (🐢 33).

**Add additional information (IPTC field) to images** button
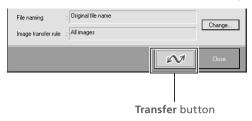
📝 **Files with the Same Name**
If you attempt to transfer pictures with the same names as files already present in the destination folder, the new files will be renamed by adding numbers sequentially before the period that separates the file name and the extension.

**4** Transfer image files
Click the **Transfer** button to start transfer at the selected settings.

| File naming | : | Original file name | Change... |
| Image transfer rule | : | All images | |



**Transfer** button

A progress dialog is displayed during transfer, showing a thumbnail preview of the file currently being transferred. Thumbnails will not be displayed if the **Show thumbnail** box is not checked.



🖉 **During Transfer**
You cannot perform any other operation in Nikon Capture 4 while the progress dialog is displayed.

🖉 **Auto Image Rotation (D2H Only)**
If **On** (the default setting) is selected for **Auto image rotation** in the camera setup menu, "tall" (portrait-orientation) photographs taken with the D2H in the vertical shooting position will automatically be rotated as they are transferred. Select **Off** to record all images in landscape orientation regardless of how the camera is held.

🖉 **COOLPIX Cameras with a Transfer Button**
If your camera is equipped with a transfer button, you can use this button to transfer pictures to your computer. See the documentation provided with your camera for details.

🖉 **Transfer Marking (COOLPIX Cameras)**
Pictures can be marked for transfer using the camera transfer button or the **Transfer** or **Auto Transfer** options in the camera menus. Some cameras do not support transfer marking; see the documentation provided with your camera for details.

🖉 **Sound Files**
Only voice memos appended to photographs using the camera voice memo option (supported with cameras such as the D2H and COOLPIX 5400) will be copied to the computer. Other sound files will not be transferred.
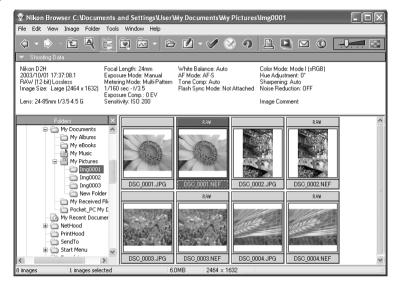
## Cancelling Transfer

To cancel transfer of the image files, click **Cancel** or press Escape. When you are transferring multiple image files, the images that have already been transferred at the time transfer is cancelled are saved in the destination folder.

## After Transfer

When transfer is completed, Nikon View will perform the action specified in the General tab (🔘 30) of the Transfer Options dialog. By default, transferred images will be displayed in Nikon Browser.

## The File Destination and Naming Dialog

To choose a destination folder and file naming method for images before transfer, click the **Change…** button in the "File destination and naming" area of the Nikon Transfer dialog.

| File destination | : C:\Documents and Settings\User\My Documents\My Pictures |
| File naming | : Original file name |
| | Change... ———— **Change** button |
| Image transfer rule | : All images |

The File Destination and Naming dialog will be displayed.

**File Destination and Naming**

File destination

Folder name

C:\Documents and Settings\User\My Documents\My Picture   Browse...

☑ Create a new subfolder for each transfer

Example: Img0001   Change...

☐ Copy folder names from camera

File naming

◉ Original file name

○ Change   Change...

Image transfer rule

File Attribute

Not specified ▾

File Date

Date not specified ▾   10/01/2003 ▾   10/01/2003 ▾

From   To

OK   Cancel

Any changes made in the File Destination and Naming dialog will be reflected in the "File destination and naming" area of the Nikon Transfer window.

### ✔ File Naming Conventions

**Windows**: *In environments that do not support long file names*, the maximum length is eight characters; file names may not contain spaces, quotes, or any of the following characters: "\\" "/" ":" "." ";" "*" "?" "<" ">" and "|".

*Where long file names are supported*, the maximum length is 255 characters; file names may not contain quotes or any of the following characters: "\\" "/" ":" "." ";" "*" "?" "<" ">" and "|".

**Macintosh**: The maximum length for Macintosh file names is thirty-one characters.  Colons (":") are not allowed.

**The "Folder" Area**

The "Folder" area of the File Destination and Naming dialog lists the folder in which pictures will be stored after transfer.

**Folder name**

This text box lists the current destination folder. To select a different folder, click **Browse…** and navigate to the desired folder.

**Create a new subfolder for each transfer**

Check this option to store images in a new sub-folder with each transfer. The sub-folder will be created under the folder listed in the "Transfer" text box and named as shown in the "Example" field. For information on changing how sub-folders are named, see "Sub-folder Naming" below.
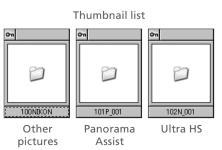
> **Copy folder names from camera**
>
> This check box is enabled when **Create a new sub-folder for each transfer** is checked. Check this option to transfer pictures using the folder hierarchy and folder names (e.g., "100ND100") used on the camera memory card.

📎 **Subfolders**

If this option is not checked, all images will be transferred to the same folder. When this option is checked, a new folder will be created for each transfer, making it easier to keep track of photographs.

📎 **Panorama Assist/Ultra HS (COOLPIX Cameras)**

If you are using a Nikon camera equipped with a "Panorama Assist" scene mode or a "Continuous" setting of "Ultra HS," be sure to check **Copy folder names from camera** before transferring pictures to ensure that each sequence of pictures taken at these settings will be transferred a separate folder on the computer. These folders will appear as sub-folders in the Nikon Browser thumbnail list and folder view.

| Thumbnail list | | | Folder view |
|---|---|---|---|
| Other pictures | Panorama Assist | Ultra HS | |

### Sub Folder Naming
Clicking **Change…** in the Folder area displays the "Sub Folder Naming" dialog.

Folder names consist of a prefix, identifier, and suffix, where the identifier is a unique number, date, or date and time, depending on the option selected in the **Between Prefix and Suffix** menu.



### Prefix
The characters appended to the beginning of the folder name.

### Suffix
The characters appended to the end of the folder name.
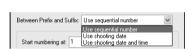
### Between Prefix and Suffix
Select the identifier from this menu. Choose from **Use sequential number**, **Use shooting date**, or **Use shooting date & time**. The options available depend on the identifier selected.

#### Use sequential number
When you select **Use sequential number**, identifiers will consist of numbers assigned in ascending order. You can specify the starting number and number of digits.

#### Use shooting date/Use shooting date & time
Select **Use shooting date** to use the date of transfer as the identifier. Select **Use shooting date & time** to use the date and time of transfer as the identifier. The date and time is of the form YYYY-MM-DD-HH-MM-SS-NN, where YYYY denotes the year, MM the month, DD the day of the month, HH the hour, MM the minute, SS the second, and NN the serial number added if the selected folder name already exists. The characters that will separate the year, month, and day and hour, minute, and second can be entered in the **Year, month, day separator** and **Hour, minute, second separator** text boxes.

Use shooting date

Use shooting date & time

## The "File Naming" Area

You can choose how files will be named in the "File naming" area of the File Destination and Naming dialog.

### Original file name

Select this option to save transferred images using the file names originally assigned by the camera when the pictures were taken.
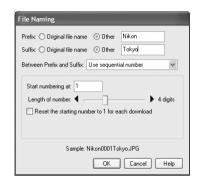
### Change

Select this option to save the transferred files under an automatically generated file name.

#### *File Naming*

When Change is selected in the "File naming" area, clicking the **Change…** button will display the "File Naming" dialog.

File names consist of a prefix, identifier, suffix, and extension, where the identifier is a unique number, date, or date and time, depending on the option selected in the **Between Prefix and Suffix** menu.

Sample: Nikon0001Tokyo.JPG

Prefix   Identifier Suffix Extension

### Prefix

Select **Original file name** to append the file name assigned by the camera to the beginning of the transferred file name. Select **Other** to append characters of your choice to the beginning of the file name.

### Suffix

Select **Original file name** to append the file name assigned by the camera to the end of the transferred file name. Select **Other** to add other characters to the end of the file name.

### Between prefix and suffix

Select the identifier from this menu as described under "Sub-Folder Naming," opposite. If **Use sequential number** is selected when **Reset the starting number to 1 for each download** is checked, file numbering will be reset to the selected start number with each transfer.
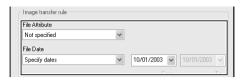
📝 **Extensions**

Transferred files are automatically assigned an extension based on file type:

| Extension | File type | Extension | File type |
|---|---|---|---|
| .JPG | Photograph (JPEG) | .MOV | Movie |
| .TIF | Photograph (TIFF) | .WAV | Sound (voice memo) |
| .NEF | Photograph (RAW) | .NDF | Dust Off Ref Photo |

### The "Image Transfer Rule" Area

The options selected in the "Image transfer rule" area of the File Destination and Naming dialog determine which pictures are transferred to the computer.

### File Attribute

Choose the type of picture to be transferred:

| Option | Description |
|---|---|
| Not specified | Pictures of all types are transferred.* |
| Marked for transfer | Only pictures marked for transfer using camera transfer marking function are transferred. |
| Marked for protection | Only protected pictures are transferred. |
| Unmarked for protection | Only pictures that have not been protected are transferred. |

\* Hidden images will only be transferred if **Copy all images marked as "hidden"** is checked in the Transfer tab of the Transfer options dialog (🐰 31). If the camera is connected using PTP, all images will be transferred, regardless of whether **Copy all images marked as "hidden"** is selected.

### File Date

Pictures can be selected for transfer based on the date of recording:

| Option | Description |
|---|---|
| Date not specified | Transfer all pictures of the selected type. |
| Today only | Transfer only pictures taken today. |
| Within a week | Transfer only pictures taken in the past week. |
| Within a month | Transfer only pictures taken in the past month. |
| Within a year | Transfer only pictures taken in the past year. |
| Specify dates | Transfer only pictures taken on the selected date. |
| User defined | Transfer only pictures taken in the selected range of dates. |

When **Specify dates** is selected, clicking the date will display a calendar. Select the desired date. If **User defined** is selected, the starting (**From**) and ending (**To**) dates can be selected in the same way.

### 🖉 Mac OS X

Under Mac OS X, files of all types will be transferred, regardless of the option selected in the **File Attribute** menu.

### 🖉 File Date

File dates will not be correct if the camera clock was not set correctly at the time of recording.
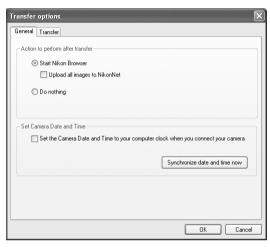
### 🖉 Transferring All Pictures

To transfer all pictures on the memory card, select **Not specified** for **File Attribute** and **Date not specified** for **File Date**.

## Transfer Options

Clicking the **Transfer Options** button in the Nikon Transfer window displays the Transfer Options dialog.

**Transfer Options** button

The Transfer Options dialog contains the following tabs:

| Tab | Description | ☼ |
|---|---|---|
| General | Specify the actions that will be performed once transfer is complete. | 30 |
| Transfer | Specify what actions will be performed during transfer. | 31 |
| Creator (Macintosh version only) | Choose the applications that will be associated with transferred photographs, movies, and sound files. | 32 |

After changing transfer options, click **OK** to save changes and return to the Nikon Transfer window. Click **Cancel** to cancel any changes to settings and return to the Nikon Transfer window.

### The General Tab
The General tab contains the following options:

### Start Nikon Browser
Select this option to start Nikon Browser after the image files are transferred. Selecting this option enables the **Upload all images to Nikon-Net** check box.

### Upload all images to NikonNet (North, South, and Central America only)
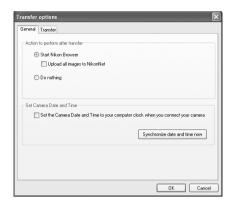Check this box to upload all the transferred image files to NikonNet, a free on-line photo album service available to customers resident in the United States of America (🐢 89). This option is not available outside the Americas.

### Do nothing
Select this option if you want Nikon View 6 to do nothing after the transfer of the image files is complete. On a Macintosh, the thumbnail display in Nikon Browser will not be updated when the images are transferred to your computer.

### Set Camera Date and Time
Check **Set the Camera Date and Time to your computer clock when you connect your camera** to set the synchronize the camera clock with the computer at the start of each transfer session. If the camera is connected when the Transfer Options dialog is displayed, the clock can be synchronized by clicking the **Synchronize date and time now** button.
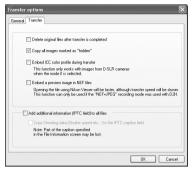
---

✎ **Set Camera Date and Time**
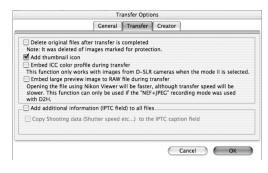
This option is available only with cameras that support IEEE 1394 (D1-series cameras) or PTP. More information may be available from the web sites listed on page 2 of this manual. Before synchronizing the camera clock, be sure that the computer is set to the correct date and time.

## The Transfer Tab

This tab allows you to adjust settings for the images about to be transferred. Note that there are some differences between the Windows and Macintosh versions of this tab.



Windows                                    Macintosh

### Delete original files after transfer is completed

Check this option to delete the image files from the memory card after they are transferred to your computer. Files that are not transferred are not deleted. In Windows and Mac OS 9, protected files will not be deleted. Protected files will be deleted in Mac OS X. If this box is not checked, the original files on the camera memory card will be left untouched after transfer.

### Add thumbnail icon (Macintosh only)

Check this option to add thumbnail icons to the transferred image files.

### Copy all images marked as "hidden" (Windows only)

Check this option to transfer all the image files that are marked as "hidden." Hidden files are not transferred if the box is not checked (this option has no effect if files are transferred using PTP).

### Embed ICC color profile during transfer

If this option is selected, embedded ICC profiles will be included when images taken with D1-series cameras or D100 cameras are transferred. This option only takes effect with the D1, which uses the NTSC color space, and images taken in Color Mode II (Adobe RGB) with the D1$x$ (firmware version 1.00 or earlier), and D1H (firmware version 1.00 or earlier). The following cameras automatically embed ICC profiles for images taken in Color Mode II even when **Embed ICC color profile during transfer** is not selected: D1$x$ and D1$H$ (firmware version 1.10 or later), D100 (firmware version 2.00 or later), and the D2H. Color profile information is not included with pictures taken in color modes I or III (optimized for sRGB) or with images transferred from COOLPIX cameras.

### Embed a preview image in NEF files (D2H only)

If this option is checked when pictures taken at an image quality of "NEF+JPEG" are transferred, the JPEG file will be embedded in the NEF file as a large preview. This increases transfer times but reduces the amount of time needed to display NEF images in Nikon Viewer.

### Add additional information (IPTC field) to all files

Check this option to add the file information specified in the IPTC Information dialog (👆 33) to the transferred image files. Selecting this option enables the **Copy Shooting data (Shutter speed etc....) to the IPTC caption field** check box.

### Copy Shooting data (Shutter speed etc....) to the IPTC caption field

Check this option to copy shooting data to the caption field of images as they are transferred.

### The Creator Tab (Macintosh Only)

This tab (available only in the Macintosh version) allows you to specify the programs that will be associated with transferred files. Double-clicking a file after transfer will open it in the associated program.

#### Still image (Exif format)

Lists the application associated with ".JPG" and ".TIF" image files.

#### Still image (NEF format)

Lists the application associated with ".NEF" image files.
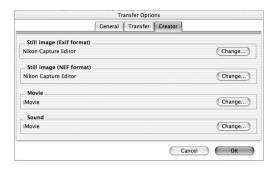
#### Movie

Lists the application associated with ".MOV" movie files.

#### Sound
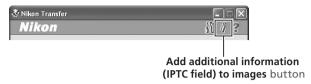
Lists the application associated with ".WAV" sound files.

Use the **Change…** buttons to specify application associated with each format.

## IPTC Information
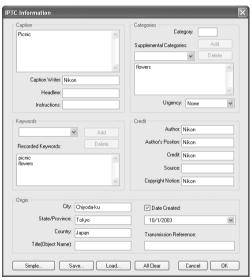
Clicking the 🔲 (**Add additional information (IPTC field) to images**) button in the Nikon Transfer dialog displays the IPTC Information dialog, where you can specify additional file information, such as captions and keywords, that can be added to images as they are transferred. This information can be viewed in Nikon Browser (🐾 58), Nikon Viewer (🐾 130), or Nikon Capture 4 Editor after transfer.

**Add additional information (IPTC field) to images** button

The IPTC Information dialog offers simple and detail views.

Simple view

Detail view

To switch from the simple to the detail view, click the **Detail…** button. Click **Simple…** to switch back.

✎ **Adding File Information**

The information in the IPTC Information dialog will be added to photographs if the **Add additional information (IPTC field) to all files** option is checked in the Transfer tab of the Transfer options dialog (🐾 31) when the pictures are transferred. IPTC information will not be added to movie files.

## Caption

The caption entered in this text box will be added to photographs if the **Add additional information (IPTC field) to all files** option is checked in the Transfer tab of the Transfer options dialog (🔋 31) when the pictures are transferred.  In the detail view, you can add information in the **Caption Writer**, **Headline**, and **Instructions** fields.

## Keywords

Keywords entered in this area can be added to photographs if the **Add additional information (IPTC field) to all files** option is checked in the Transfer tab of the Transfer options dialog (🔋 31) when the pictures are transferred.  To add keywords to the list in the Recorded Keywords text box, click **Add**.  Up to twenty keywords can be recorded.

## Categories (detail view only)

Choose a category and urgency level.  Categories can be created in the same manner as keywords.

## Credit (detail view only)

Enter information for **Author**, **Author's Position**, **Credit**, **Source**, and **Copyright Notice**.

## Origin (detail view only)

Enter information for **City**, **State/Province**, **Country**, **Title(Object Name)**, **Date Created**, and **Transmission Reference**.

To save IPTC information in a separate file, click **Save…**.  Previously saved information can be loaded by clicking **Load…**.

# Nikon Browser

Nikon Browser is used to browse thumbnail images of the pictures and folders that have been transferred to your computer. You can also use the browser to view photo information, rotate images, or display pictures automated slide shows.

This chapter is divided into the following sections:

### The Nikon Browser Window
This section outlines the controls and displays in the Nikon Browser window, and describes how to start and exit Nikon Browser.

### Using Nikon Browser
This section details how Nikon Browser can be used to browse files after transfer, to manage files by moving them into different folders and organizing folders into favorites, to view and print images, and how to distribute images by e-mail or upload them to the Web.
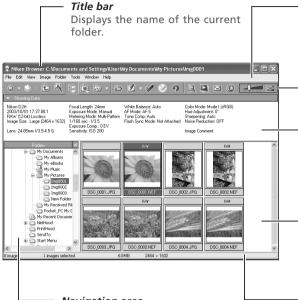
### Nikon Browser Preferences
Read this section for information on fine-tuning settings for Nikon Browser and Nikon Viewer.

# The Nikon Browser Window

*Getting to Know Nikon Browser*

The main parts of the Nikon Browser window are identified below.

**Title bar**
Displays the name of the current folder.

**Menu bar**
Contains commands for a variety of browser operations.

**Toolbar**
Contains the buttons listed in the table opposite.

**Shooting data area**
Displays photo information for picture currently selected in the thumbnail list (👁 55).

**Thumbnail list**
The images in the current folder are displayed as small thumbnail images (👁 41).

**Navigation area**
Shows the folder tree (a list of drives and folders; 👁 41) or a search control (👁 56). The search control can be used to search for pictures according to user-specified conditions. To switch between the folder tree and search control, click the 🔲 and 🔍 buttons in the toolbar.

**Status bar**
Displays such information as the number of images in the selected folder and the number of items selected in the thumbnail list.

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✎ **Menu Commands and Tool Buttons**

Although the majority of operations can be performed using both menu commands and the buttons in the toolbar, the explanations in this manual give priority to operations performed using tool buttons.

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*36*

The names and functions of the buttons in the Nikon Browser window are shown in the following table:

| Button | Name | Function | Shortcut* | 👁 |
|---|---|---|---|---|
| | **Back** | Return to the folder that was displayed immediately before you selected the current folder. | Alt+ ← / cmd+[ | 42 |
| | **Forward** | Return to the folder displayed immediately before you clicked the Back button. | Alt+→ / cmd+] | 42 |
| | **Up One Level** | Takes you up one level in the folder hierarchy. | Ctrl+U/ cmd+U | 42 |
| | **Search** | Display the search control. | Ctrl+F/ cmd+F | 56 |
| | **Folders** | Display the folder tree. | Ctrl+T/ cmd+T | 56 |
| | **Favorites** | Add the current folder to your list of favorites or select a folder from your favorites. | — | 46 |
| | **Transfer Destination** | Display a list of the ten most recent destination folders for images transferred from memory cards using Nikon Transfer or captured using Nikon Capture 4 Camera Control. Choosing a folder from the list selects it in the folder tree area. | — | 42 |
| | **View** | View the pictures currently selected in the thumbnail list. | — / cmd+O | 61 |
| | **Edit** | Open the pictures currently selected in the thumbnail list in the application selected for editing. | Ctrl+E/ cmd+E | 68 |
| | **Add Tag Mark** | Tag selected images. | Ctrl+M/ cmd+M | 53 |
| | **Remove Tag Mark** | Remove tags from selected images. | Ctrl+Shift+M/ shift+cmd+M | 53 |
| | **Rotation** | Rotate all still images in the current selection. | Ctrl+R/ cmd+R | 54 |
| | **Print** | Print all still images in the current selection. | Ctrl+P/ cmd+P | 71 |
| | **Slideshow** | View the images in the current selection in an automated slideshow. | — | 82 |
| | **E-mail** | Append the selected images to an e-mail message. | — | 86 |
| | **Publish to NikonNet or PDA** | Upload all images in the current selection to the Web (residents of the USA only) or a Pocket PC or Palm hand-held device. This button is only available in the version of Nikon View released in the Americas. | — | 89 |
| | **Thumbnail slider** | Adjust the display size of thumbnails. | — | 50 |
| | **Preferences** | Display the Nikon View 6 Preferences dialog. | Ctrl+K/ cmd+K | 103 |
| | **Help** | View help. | F1/ cmd+? | — |

*Windows keyboard shortcuts are listed first, Macintosh shortcuts second.

## Starting Nikon Browser

Nikon Browser can be started from the **Start** menu (Windows) or by double-clicking the Nikon View application icon.

### Windows

1 Turn the computer on
Turn the computer on and wait for the operating system to start up.
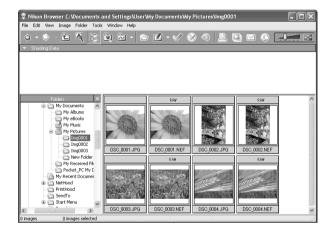
2 Start Nikon Browser
From the **Start** menu, select **All Programs** > **Nikon View 6** > **Nikon View 6** (Windows XP Home Edition/ Windows XP Professional) or **Programs** > **Nikon View 6** > **Nikon View 6** (other Windows versions).

Nikon Browser will start.



🖉 **Starting Nikon Browser from Nikon Transfer**
Nikon Browser will be displayed automatically when the Nikon Transfer window closes after transfer.
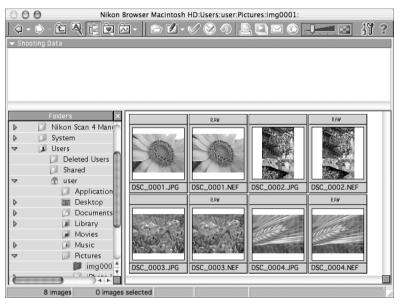
🖉 **Starting Nikon Browser from Nikon Capture 4 Editor**
Nikon Browser can also be started by selecting **Show current folder in Nikon View** from the **Tools** menu in Nikon Capture 4 Editor.

**Macintosh**

**1** Turn the computer on

**2** Double-click the Nikon View 6 icon
Open the folder to which you installed Nikon View 6 and double-click the Nikon View 6
icon.

## Exiting Nikon Capture 4 Browser
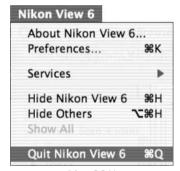
To exit Nikon Browser, open the **File** menu and select **Exit** (Windows) or **Quit** (Mac OS 9). In Mac OS X, select **Quit Nikon View 6** from the application menu.

| File | |
|---|---|
| Close | Ctrl+W |
| Edit | Ctrl+E |
| Edit using other programs | ▶ |
| Delete | Del |
| Delete Sound | |
| Page Setup... | |
| Print... | Ctrl+P |
| Play Sound... | |
| IPTC Information... | Ctrl+J |
| Tag marking | ▶ |
| Attribute | ▶ |
| Exit | Alt+F4 |

Windows

| File | |
|---|---|
| Transfer | ⌘T |
| New Folder... | ⌘N |
| View... | ⌘O |
| Close | ⌘W |
| Edit | ⌘E |
| Edit using other program | ▶ |
| Rename a file or a folder... | |
| Move... | |
| Copy... | |
| Close Displayed Image | |
| Delete | ⌘⌫ |
| Delete Sound | |
| Page Setup... | |
| Print... | ⌘P |
| Play Sound... | |
| IPTC Information... | ⌘J |
| Tag marking | ▶ |
| Attribute | ▶ |
| Quit | ⌘Q |

Mac OS 9

| Nikon View 6 | |
|---|---|
| About Nikon View 6... | |
| Preferences... | ⌘K |
| Services | ▶ |
| Hide Nikon View 6 | ⌘H |
| Hide Others | ⌥⌘H |
| Show All | |
| Quit Nikon View 6 | ⌘Q |

Mac OS X

# Using Nikon Browser

*Browser Window Operations*

## Working with Folders

When the folder tree is displayed in the navigation area and a folder is selected, the images it contains will be displayed in the thumbnail list. To close the folder tree, click the close box in its upper right corner. To view the folder tree again, select **View Folders** (Windows) or **Show folder tree** (Macintosh) in the **View** > **Navigation** menu.

Close box

Folder tree

Navigation Area

Thumbnail list

---

📝 **Supported File Formats**

Nikon Browser can be used to view files created with supported cameras and images previously saved using Nikon View 6 Editor or Nikon Capture version 4 or earlier. For information on the file formats supported, see "Opening Image Files" in "Nikon Capture 4 Editor: The Editor Window" (🔄 141).
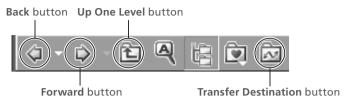
📷 **Keyboard Shortcuts**

In Windows, you can select folders with the following keyboard shortcuts:
• HOME:        Selects the Desktop icon displayed at the root of the folder tree.
• END:            Selects the folder or drive displayed at the bottom of the folder tree area.
• BACKSPACE: Selects the folder one level higher than the current folder in the folder tree.

## Choosing a Folder

The folder tree area displays drives and folders in your computer as a tree from the desktop down.  In the folder tree area, you can only select one folder at a time.

**Back** button   **Up One Level** button



**Forward** button         **Transfer Destination** button

You can go back to the previous folder by clicking the **Back** button in the toolbar.  You can also select from up to ten previous folders by clicking the drop-down arrow on the right.

Use the **Forward** button to go back to where you were when you clicked the **Back** button.  You can also select from up to ten folders by clicking the drop-down arrow on the right.

Click the **Up One Level** button to select a folder one level higher than the current folder in the folder hierarchy.

Click the **Transfer Destination** button to view a list of the ten most recent destination folders for image files that were transferred using Nikon Transfer.  When you select a folder from the list, the folder will be selected in the folder tree area.

## Creating a New Folder

To create a new sub-folder under the folder currently selected in the folder tree or thumbnail list, select **New Folder** from the **File** menu.

| File | |
| --- | --- |
| New Folder | Ctrl+N |
| View… | |
| Edit | Ctrl+E |
| Edit using other programs | ▶ |
| Rename a file or a folder | F2 |
| Move… | |
| Copy… | |
| Delete | Del |
| Delete Sound | |
| Page Setup… | |
| Print… | Ctrl+P |

✎ **Opening Folders in the Explorer or the Finder**
In Windows, you can open a folder in Explorer by selecting a folder and choosing **Open with Explorer** from the **Folder** menu.  In Macintosh, you can open a folder in Finder by selecting a folder and choosing **Open in Finder** from the **Folder** menu.

🔍 **Deleting Folders**
To delete a folder, select the folder one level higher than the folder you want to delete.  The folder you want to delete will be displayed in the thumbnail list area.  Select the folder, then choose **Delete** from the **File** menu. Deleting a folder also deletes all files it contains.

**Renaming Images and Folders**
Images or folders selected in the thumbnail list can be renamed individually, or multiple images or folders can be selected and renamed according to a user-specified rule.
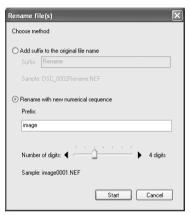
*Renaming Individual Images and Folders*
To rename an image or folder, select it in the thumbnail list and choose **Rename a file or a folder** in the **File** menu. In Windows, the new name can be entered directly in the thumbnail list. On the Macintosh, a dialog will be displayed where the image or folder can be renamed.
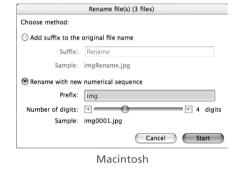
| File | |
|---|---|
| New Folder | Ctrl+N |
| View... | |
| Edit | Ctrl+E |
| Edit using other programs | ▶ |
| Rename a file or a folder | F2 |
| Move... | |
| Copy... | |

*Renaming Multiple Images and Folders*
Select multiple items in the thumbnail list and select **Rename a file or a folder** (Windows) or **Rename automatically** (Macintosh) in the **File** menu. The following dialog will be displayed.



Windows



Macintosh

**Add suffix to the original file name**
Select this option to append the characters in the **Suffix** text box to the end of the original file name.

**Rename with new numerical sequence**
Select this option to assign all the selected items a new file name consisting of a user-specified prefix followed by numbers assigned automatically in ascending order according to the order in which the images are sorted in the thumbnail list area. Enter the prefix in the **Prefix** text box and choose the number of digits using the **Number of digits** slider.

Click **Start** to rename the selected items.

🖊 **Selecting Multiple Folders**
Multiple folders can not be selected in the folder tree. Select folders in the thumbnail list.

### Moving and Copying Images

Images can be moved or copied between folders by drag and drop or using the **Move…** and **Copy…** options in the **File** menu.

*Moving and Copying Files by Drag and Drop*

Images can be moved or copied by dragging and dropping thumbnails from the thumbnail list to a folder in the folder tree.



Drag and drop

| To | Windows | Macintosh |
|---|---|---|
| Move a file to another location on the same drive | Use drag and drop | Use drag and drop |
| Copy a file to another location on the same drive | Press the CTRL key while dragging the file | Press the option key while dragging the file |
| Move a file to another drive | Press the SHIFT key while dragging the file | — |
| Copy a file to another drive | Use drag and drop | Use drag and drop |
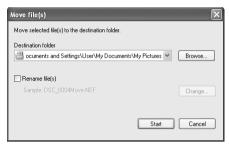
#### 🖉 NEF+JPEG Images with Voice Memos (D2H Only)
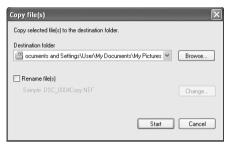
If a voice memo has been recorded for an NEF+JPEG image, moving either the JPEG or NEF file will also move the associated voice memo and delete the link between the sound file and the remaining file.

*Using the* **Move…** *and* **Copy…** *Options*
These options can be used to move, copy, or rename selected files and folders. Select one or more items in the thumbnail list and select **Move…** in the **File** menu to display the "Move file(s)" dialog, or **Copy…** to display the "Copy file(s)" dialog.

"Move file(s)" dialog    "Copy file(s)" dialog

Choose a destination folder and renaming options and described below.

### Destination folder
This text box lists the current destination folder. To choose a new folder, click **Browse…** and navigate to the desired location.

### Rename file(s)
When this option is selected, moved or copied items will be saved under new names in the destination folder. In Windows, this option is not available if the current selection contains both files and folders. Clicking the **Change…** button displays the "Rename file(s)" dialog, where a naming rule can be selected (🔄 43).

### ✎ Selecting Multiple Folders
Multiple folders can not be selected in the folder tree. Select folders in the thumbnail list.

### ✎ Voice Memos
If voice memos are associated with the selected files, the number of items selected in the thumbnail list will differ from the number of items listed in the rename, move, copy, and delete dialogs. Voice memos are included in the number of items listed in these dialogs, but not in the thumbnail list.

### Adding Folders to Your List of Favorites

In Nikon Browser, you can add folders containing transferred images to your list of favorites. Folders to be added to this list can be selected using either the **Favorites** tool button or the **Favorites** option in the **Folder** menu.  Up to thirty folders can be listed.



#### *The "Add to Favorites" Dialog*

To add a folder to your list of favorites, use the folder tree area to select the desired folder, then click the **Favorites** button in the toolbar or select **Favorites** > **Add to Favorites** from the **Folder** menu.  The **Add to Favorites** dialog will be displayed.



#### Name
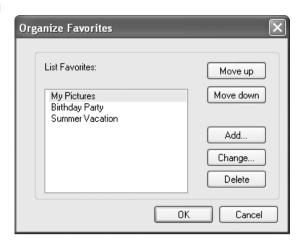
Displays the name of the folder to be added to your list of favorites.

#### Folder location

Displays the location of the folder to be added to your list of favorites.  If you want to specify a different folder, click **Browse…**.  The name of the new folder will be displayed automatically under "Name."  Click **OK** to add the selected folder to your list of favorites.

**The "Organize Favorites" Dialog**
To organize folders within your list of favorites, click the **Favorites** button in the toolbar, or select **Favorites** > **Organize Favorites** from the **Folder** menu. The Organize Favorites dialog will be displayed.



*List Favorites*
Lists the folders that have been added to your favorites.

*Move up / Move down*
Click to move the selected folder up or down in the Favorites list. The folders in the **Folder** > **Favorites** sub-menu will be displayed in the specified order.

*Add*
Click to display the Add to Favorites dialog, where you can add folders to your favorites.

*Change*
Click to display the Change Favorites dialog, where you can change the name under which folders are listed in the Favorites list without changing the name of the original folder.
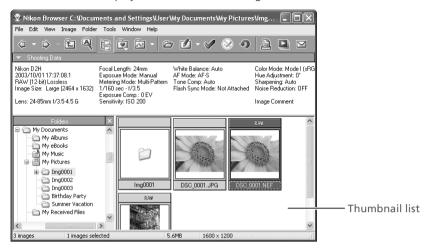


*Delete*
Click to remove the selected folder from your list of favorites. The original folder is not deleted from your computer.
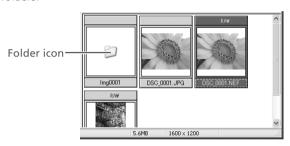
## Working with Thumbnails

The thumbnail list area displays thumbnails for all images stored in the selected folder.



Thumbnail list

Note also that a folder icon is displayed in the thumbnail list area if the current folder contains sub-folders.



Folder icon

To display the contents of the folder in the thumbnail list area, select the folder icon in the thumbnail list area and click the **View** button in the toolbar. The folder will be selected in the folder tree area.

### ✎ Auto Image Rotation (D2H Only)

"Tall" (portrait-orientation) photographs taken with **On** (the default setting) selected for **Auto image rotation** in the camera setup menu will be displayed in portrait orientation. Photographs taken with the D2H in the horizontal shooting position or with **Off** selected for **Auto image rotation** will be displayed in "wide" (landscape) orientation.

### 📷 Creating Thumbnails (Windows)

In the Windows version of Nikon View 6, thumbnails will be created automatically when no thumbnail data are present in the image file.

### 🔍 Creating Thumbnails (Macintosh)

Sometimes, a generic file icon is displayed instead of a thumbnail in the thumbnail list area. This is because some image editing programs remove the thumbnail data appended to the image file.



If this happens, select the generic thumbnails in the thumbnail list and choose **Create thumbnails from actual image data** from the **View** menu. The new thumbnail will be displayed in the thumbnail list area.
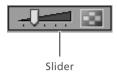


You can also create thumbnails by checking **Re-create thumbnails from actual image data** in the Thumbnails tab (🔆 106) of the Preferences dialog.
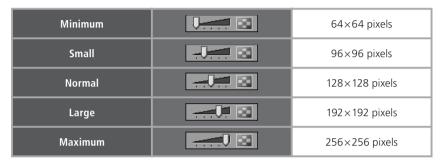
### Changing Thumbnail Size

The size of the thumbnails displayed in the thumbnail list can be changed using the slider in the toolbar or by selecting the desired size using the **View Size** option in the **View** menu.

Slider

The following five sizes are available:

| Minimum | | 64×64 pixels |
|---------|---|---|
| Small | | 96×96 pixels |
| Normal | | 128×128 pixels |
| Large | | 192×192 pixels |
| Maximum | | 256×256 pixels |
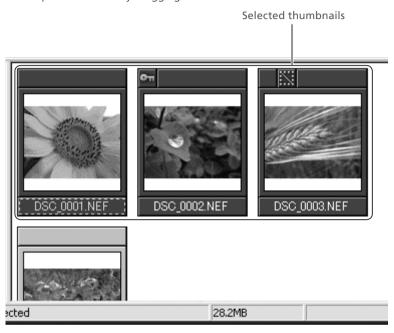
✎ **Thumbnail Size**

Images created with certain cameras, such as the D1, include only one thumbnail $160 \times 120$ pixels in size. If a larger size is selected, the existing thumbnail data will be enlarged to display at the selected size. To create a less ragged thumbnail, select **Re-create thumbnails from actual image data** in the Thumbnails tab of the Nikon Browser Preferences dialog (🐾 106). This is not necessary when displaying pictures created with cameras such as the D1x, D1h, D100, D2H, E5000, and the E5700, which include larger thumbnails with the original image.

**Selecting Thumbnails**
Thumbnail previews of the images in the selected folder are shown in the thumbnail list area. Click a thumbnail to select it. To select multiple thumbnails, hold down the CTRL key (Windows) or the Command key (Macintosh) while clicking on each of the thumbnails. You can also select multiple thumbnails by dragging the mouse.

Selected thumbnails



**Selecting Images**
To select all images and folders in the thumbnail list, choose **Select All** in the **Edit** menu. To select all images without selecting folders, choose **Select All** in the **Edit** > **Select Image(s)** sub-menu. The **Select Image(s)** sub-menu can also be used to select only those images that satisfy a chosen criterion.

*51*

## Thumbnail Attributes

Thumbnails are marked by icons indicating image attributes. There are eleven different attributes:

Attribute icon



DSC_0001.NEF

| Icon | Description |
|------|-------------|
| ✔ | Tagged image |
| ⊙ₘ | Protected image |
| ▨ | Hidden image (will not be displayed in Windows Explorer) |
| RAW | Unedited RAW image (note that images rotated in Nikon Browser are considered to be unedited images) |
| RAW + | Unedited RAW image with large preview created in Nikon NEF Preview Creator |
| RAW ✎ | NEF (RAW) image edited in Nikon Capture |
| RAW ✎+ | NEF (RAW) image edited in Nikon Capture with large preview created in Nikon NEF Preview Creator |
| ▱ | Small JPEG image (less than 640 pixels on longest dimension) |
| 🎬 | Movie |
| ♫ | Image file with associated voice memo |
| 𝒊 | Image file with IPTC file information |
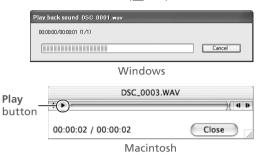
You can also protect (Windows and Macintosh) or hide (Windows only) images associated with the selected thumbnail by selecting **Attribute** from the **File** menu. Protecting an image prevents it from being deleted accidentally. Hidden images will not be shown in Windows Explorer.

| File | |
|------|------|
| New Folder | Ctrl+N |
| View… | |
| Edit | Ctrl+E |
| Edit using other programs | ▶ |
| Rename a file or a folder | F2 |
| Move… | |
| Copy… | |
| Delete | Del |
| Delete Sound | |
| Page Setup… | |
| Print… | Ctrl+P |
| Play Sound… | |
| IPTC Information… | Ctrl+J |
| Tag marking | ▶ |
| Attribute | ▶ |
| Exit | Alt+F4 |

| | |
|---|---|
| Protection ON | Ctrl+L |
| Protection OFF | Ctrl+Shift+L |
| Hide mode ON | Ctrl+H |
| Hide mode OFF | Ctrl+Shift+H |

**Playing Voice Memos**

To play a voice memo, select an image marked with the voice memo icon, and select **Play Sound** from the **File** menu. Under Windows, the voice memo will be played back in the application specified in the Sound tab ( 111) of the Preferences dialog.

Windows

**Play button**

Macintosh
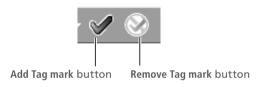
On a Macintosh, click the play button to start playback.

**Tagging Images**

To tag the images selected in the thumbnail list, click the **Add Tag Mark** button in the toolbar or select **Add Tag Mark** in the **File>Tag marking** menu. The selected thumbnails will be marked with a tagged image attribute icon. Tags can be removed by clicking the **Remove Tag Mark** button or selecting **Remove Tag Mark** in the **File>Tag marking** menu.

Tagged image icon

Add Tag mark button    Remove Tag mark button
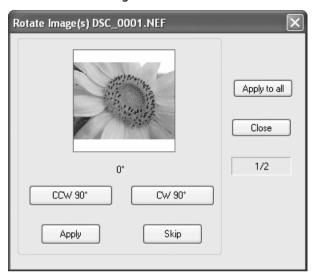
 **Tagged Images**

Tagged images can be selected by choosing **Image with tag marked** in the **Edit>Select Images** sub-menu or by selecting **Search only files with tag mark on** in the search control.

### Rotating Thumbnails

In the thumbnail list area, you can rotate selected thumbnails. The rotation applied to a thumbnail is also reflected in the associated image file. Use the Rotate Image(s) dialog to rotate thumbnails. To display the Rotate Image(s) dialog, click the **Rotate** button in the toolbar, or select **Rotate** from the **Image** menu.



In the Rotate Image(s) dialog, click **CCW 90°** to rotate the thumbnail 90 degrees counter-clockwise or **CW 90°** to rotate 90 degrees clockwise. Click the same button twice if you want to rotate the thumbnail 180 degrees. You can check the results in the preview area.

*When One Thumbnail Is Selected*
Click **Apply** to rotate both the thumbnail and the associated image file and then close the dialog.

*When Multiple Thumbnails Are Selected*
Click **Apply** to rotate both the thumbnail and the associated image file and then display the next thumbnail. To display the next thumbnail without rotating the current thumbnail, click **Skip**. Click **Apply to all** to apply the orientation of the current thumbnail to all the selected thumbnails and the associated image files. Rotation is not applied to the hidden files and files that have already been rotated.

📎 **Rotating JPEG Images**

Nikon Browser rotates and flips JPEG images without decompressing them first, and no drop in image quality results. We recommend that you flip or rotate JPEG images in Nikon Browser before opening them in Nikon Capture 4 Editor or another application. NEF and TIFF images do not degrade when rotated or saved.

Do not resize JPEG images before rotation. Rotating a resized image may result in a drop in quality at the edges of the picture.
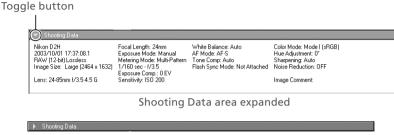
📎 **Rotating Movies**

Movies cannot be rotated. If a movie file is included among the selected thumbnails, the movie file will not be displayed in the Rotate Image(s) dialog.

## Displaying Shooting Data

When you select a single thumbnail, shooting data is displayed in the Shooting Data area. No shooting data is displayed if no thumbnails are selected or if multiple thumbnails are selected.

You can show or hide the shooting data by selecting **View Shooting Data** from the **View** menu. You can also expand or collapse the Shooting Data area by clicking the toggle button (a small triangle) in the upper left corner.

Toggle button



| | | | |
|---|---|---|---|
| Shooting Data | | | |
| Nikon D2H | Focal Length: 24mm | White Balance: Auto | Color Mode: Mode I (sRGB) |
| 2003/10/01 17:37:08.1 | Exposure Mode: Manual | AF Mode: AF-S | Hue Adjustment: 0° |
| RAW (12-bit) Lossless | Metering Mode: Multi-Pattern | Tone Comp: Auto | Sharpening: Auto |
| Image Size: Large (2464 x 1632) | 1/160 sec - f/3.5 | Flash Sync Mode: Not Attached | Noise Reduction: OFF |
| | Exposure Comp.: 0 EV | | |
| Lens: 24-85mm f/3.5-4.5 G | Sensitivity: ISO 200 | | Image Comment: |

Shooting Data area expanded

| ▶ Shooting Data |
|---|

Shooting Data area collapsed

The information displayed includes the following items. The information available varies according to the model of camera.
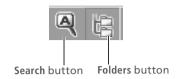
> Camera Name / Date and Time / Image Quality /
> Image Size / Color / Converter Lens / Lens / Focal Length /
> Exposure Mode (Scene Mode)/ Metering Mode /
> Shutter Speed, Aperture / Exposure Compensation /
> Sensitivity / White Balance / AF Mode / Tone Compensation /
> Flash Sync Mode / Flash Mode / Auto Flash Comp. /
> Digital Zoom Ratio / Saturation Control / Color Mode / Hue
> Adjustment / Image Sharpening /
> Noise Reduction / Image Comment /
> Latitude (GPS) / Longitude (GPS) / Altitude (GPS)

✐ **Shooting Data**
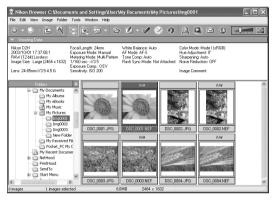
Depending on the application and the file format used, shooting data may be lost when pictures created with the camera are opened and saved from a third-party imaging application.
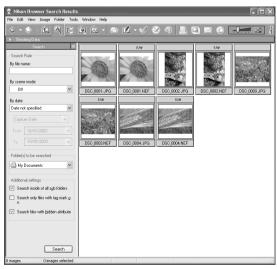
## Finding Images

To view the search control, click the **Search** button in the toolbar or select **Show search control** in the **View** > **Navigation** menu. The search control will be displayed in the navigation area.



**Search** button      **Folders** button



After specifying the search conditions in the search control, click **Search**. All files meeting the selected criteria will be displayed in the thumbnail list.



📝 **The Folder Tree**

To view the folder tree after displaying the search control, click the **Folders** button in the toolbar or select **Show folder tree** in the **View** > **Navigation** menu.

The following search criteria are supported:

### By file name
Find images with the specified characters in their file names. Wildcard characters ("*" or "?") can be used.

### By scene mode
Find images taken at the selected scene mode setting. Note that not all cameras support scene mode: to determine whether a picture was taken in scene mode, view the shooting data.

### By date
Find images created or modified in the specified date range.

### Folder(s) to be searched
Find images in the specified location.

### Additional settings
The following additional criteria can be used to narrow or widen the search:



#### Search inside of all sub folders
Search all sub-folders under the selected location.
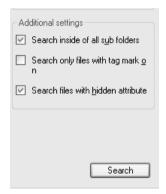
#### Search only files with tag mark on
Confine search to tagged files.

#### Search only files with hidden attribute (Windows only)
Confine search to hidden files.
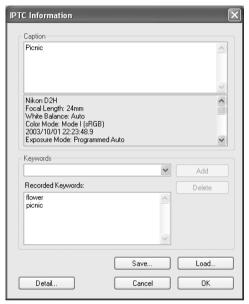
## Viewing File Information

In Nikon Browser, you can use the IPTC Information dialog to view the file information added to an image file during transfer.

**Displaying the IPTC Information Dialog**
To open the IPTC Information dialog, select a thumbnail in the thumbnail list and select **IPTC Information** from the **File** menu.
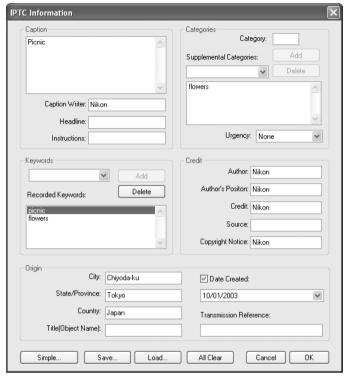
Simple view

Shooting data added to the image file during transfer are displayed in the lower part of the Caption area in the IPTC Information dialog.

🖉 **Adding Shooting Data to Images**
Shooting data is added to the image file during transfer when **Copy Shooting data (Shutter speed etc....) to the IPTC caption field** is checked in the Transfer tab of the Transfer options dialog (👁 31).

IPTC Information can be displayed in Simple or Detail views.

Click the **Simple…** /**Detail…** button to toggle between Simple and Detail views.



Detail view

For more information on the IPTC Information dialog, see "IPTC Information" in "Nikon Transfer" (⚫ 33) .

✐ **File Information from Nikon Browser**
IPTC information displayed in Nikon Browser cannot be edited. Note that file information is not attached to movies.
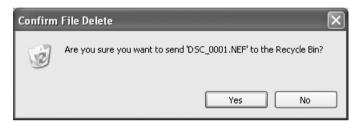
## Deleting Image Files
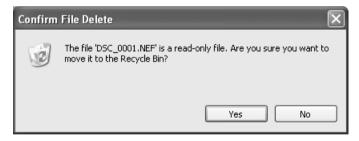
To delete image files in Nikon Browser, select the associated thumbnails in the thumbnail list area and select **Delete** from the **File** menu. You can attain the same results by pressing the DELETE key (Windows) or COMMAND + DELETE keys (Macintosh).

| File | |
|---|---|
| New Folder | Ctrl+N |
| View... | |
| Edit | Ctrl+E |
| Edit using other programs | ▶ |
| Rename a file or a folder | F2 |
| Move... | |
| Copy... | |
| Delete | Del |
| Delete Sound | |
| Page Setup... | |
| Print... | Ctrl+P |

A confirmation dialog will be displayed. Click **Yes** to proceed with deletion.

**Confirm File Delete**

Are you sure you want to send 'DSC_0001.NEF' to the Recycle Bin?

Yes    No

If there are any protected images among the images selected for deletion, the dialog shown below will appear. Click **Yes** to proceed with deletion.

**Confirm File Delete**

The file 'DSC_0001.NEF' is a read-only file. Are you sure you want to move it to the Recycle Bin?

Yes    No

If a folder thumbnail is selected in the thumbnail list, the above operation will delete the folder and all its contents .

✔ **Deleted Image Files**
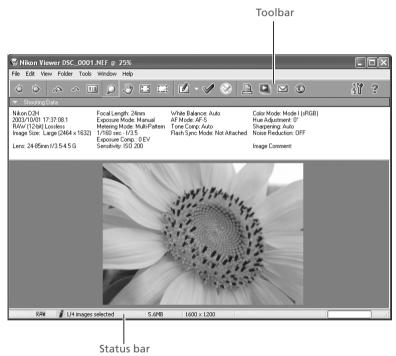
Deleted image files are moved to the Recycle Bin (Windows) or the Trash (Macintosh). To cancel deletion, open the Recycle Bin or the Trash and return the deleted files to their original location. In Windows, if you delete image files from a memory card inserted in the camera, card slot, or card reader, or from a network folder, the image files are permanently erased and cannot be recovered.

## Displaying Images

When you select a thumbnail in the thumbnail list area, still images are displayed in Nikon Viewer while movie files are played back in the program selected in the Movie Tab of the Preferences dialog (📖 109).

**Viewing Still Images**

To view a still image, double click its thumbnail in the thumbnail list area. Nikon Viewer will open with the image displayed. NEF and RAW images will display faster if the Nikon NEF Preview Creator has been used to create large previews (📖 64).

Toolbar



Status bar

---

📷 **Other Ways to View Images**
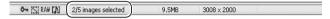
You can also open an image in Nikon Viewer by:
• selecting its thumbnail, and clicking the **View** button on the toolbar or selecting **View** from the **File** menu.
• selecting its thumbnail and pressing the ENTER key (Windows) or the RETURN key (Macintosh).

*Displaying Images in Nikon Viewer*

Images opened in Nikon Viewer can only be displayed one at a time. If multiple thumbnails are opened, only one image will be displayed. Use the **Next Image Selected** and **Previous Image Selected** buttons to display the other images.

You can use the Nikon Viewer status bar to check the number of opened images and the status of the currently displayed image.



You can view other images using the **Next Image Selected** and **Previous Image Selected** buttons in the Nikon Viewer toolbar.

**Previous Image Selected** button



**Next Image Selected** button

In Windows, even if you open only one thumbnail in the thumbnail list area, you can browse through all the still images stored in the same folder as the selected image by using the **Next Image Selected** and **Previous Image Selected** buttons.

🖉 **Image Editing Programs**

To edit a still image, select its thumbnail and click the **Edit** button in the toolbar or select **Edit** from the **File** menu. This will launch the image editing program selected in the "Still image" tab (👁 108) of the Preferences dialog.

🖉 **Dust Off Reference Photos**

Thumbnails with an ".NDF" extension are Dust Off reference photos created for use with the Image Dust Off option in Nikon Capture 4 Editor (👁 162). They can not be displayed in Nikon Viewer.



DSC_0001.NDF

## Window Menu Options in Nikon Browser and Nikon Viewer

The options in the **Window** menu can be used to organize the display in Nikon Browser and Nikon Viewer.

### Cascade
Arrange Nikon Browser and Nikon Viewer in overlapping windows.

### Horizontal
Arrange Nikon Browser and Nikon Viewer one above the other in non-overlapping windows.

### Vertical
Arrange Nikon Browser and Nikon Viewer side-by-side in non-overlapping windows.

### Display one-line of thumbnails at top
The Nikon Browser window is adjusted to display a single horizontal line of thumbnails above the Nikon Viewer window.

### Display one-line of thumbnails at side
The Nikon Browser window is adjusted to display a single vertical line of thumbnails to the left of the Nikon Viewer window.



One line of thumbnails at top



One line of thumbnails at side

When both Nikon Browser and Nikon Viewer are open, clicking a thumbnail once in Nikon Browser will display the selected image in Nikon Viewer.

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🖉 **Viewing the Nikon Browser Toolbar and Navigation Area**
When **Display one-line of thumbnails at top** or **Display one-line of thumbnails at side** is selected, the selected item is checked and the toolbar and navigation area are hidden. To view the toolbar and navigation area, select the checked option to cancel the thumbnail-only display.

**Creating Large Previews for RAW (NEF) Images**

When a large preview (1,600 pixels in the longest dimension) is embedded in a RAW (NEF) photograph taken with a Nikon digital camera, the image will scale rapidly to fit in the Viewer window, reducing display times. To embed large previews in selected RAW (NEF) images:

1 Start the Nikon NEF Preview Creator

After selecting one or more RAW (NEF) images in Nikon Browser, click the triangle to the right of the ☑ ▾ button and select **Large Preview Generator for NEF file**, or select **Large Preview Generator for NEF file** from the **File** > **Edit using other programs** menu. The following dialog will be displayed.

---

**Large Preview Generator for NEF file**

For fast display of NEF images, this operation generates two larger preview images which replace the smaller thumbnails within the original NEF files you have selected.
Please note that your camera will not be able to display these images after processing.
This operation can only be applied to NEF format files.

☐ Process read-only files

☑ Create previews using the sharpening setting from each file

☑ Notify when completed

☑ Show this dialog every time

[ Start ]  [ Cancel ]

---

2 Adjust settings

The following options are available:

**Process read-only files** (Windows)/**Process locked files** (Macintosh)
Select this option to embed large previews in read-only (locked) files. Files on write-protected or read-only media such as CD-ROMs are not affected.

**Create previews using the sharpening setting from each file**
Select this option to process large previews to reflect the sharpening setting in effect in the source file.

**Notify when completed**
If this option is selected, a message will be displayed when processing is complete.
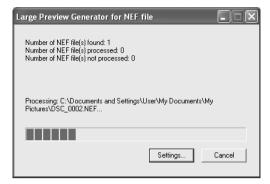
**Show this dialog every time**
Select this option to display the dialog shown in Step 1 the next time the Nikon NEF Preview Creator starts. If this option is not selected, this dialog will not be displayed the next time the Nikon NEF Preview Creator starts. Instead, the selected images will be processed at the settings in effect the last time the dialog was displayed.
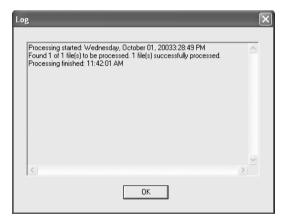
✐ **The Nikon NEF Preview Creator**
The Nikon NEF Preview Creator can only be used with RAW (NEF) files.

3 Click **Start**
The following dialog will be displayed during processing. To interrupt processing and return to the dialog shown in Step 1, click **Settings**.



4 Exit the Nikon NEF Preview Creator
A log will be displayed when processing is complete. Click **OK** to exit the Nikon NEF Preview Creator.



**Camera Playback**

The large previews created with the Nikon NEF Preview Creator replace the thumbnails embedded in the images when they were taken. The resulting images can no longer be viewed on the camera.

## Playing Movies Back (COOLPIX Cameras)

To play back a movie, double click its thumbnail in the thumbnail list.  The application specified in the Movie tab (🖼 109) of the Preferences dialog will launch and play the movie back.



*Installing QuickTime*

In Windows, you cannot use Windows Media Player to play back movies recorded with COOLPIX series digital cameras.  If a movie player program is not installed, install the version of QuickTime bundled with Nikon View 6 (COOLPIX series only).  For more information on installation, see the *Nikon Capture 4 Install Guide*.

### 🔍 Other Ways to Play Movies

You can also play movies back by:
• selecting its thumbnail, and clicking **View** button in the toolbar, or select **View** from the **File** menu.
• selecting the thumbnail and pressing the ENTER key (Windows) or the RETURN key (Macintosh).

### ✏️ Editing Movies

To edit a movie, select its thumbnail and click the **Edit** button on the toolbar or select **Edit** from the **File** menu.  This will launch the movie editing program selected in the "Movie" tab (🖼 109) of the Preferences dialog.

## Playing Sound Files

Selecting **Play Sound** from the **File** menu when a voice memo is selected in the thumbnail area opens the selected memo for audio playback. In the Windows version of Nikon Capture 4, the application used for audio playback can be selected in the Sound tab of the Preferences dialog (👸 111). If **Use Nikon View** is selected, playback will begin automatically.

In the Macintosh version, playback is controlled using the buttons in the window shown below.

Windows

Macintosh

On a Macintosh, click the play button to start playback.

## Editing Image Files

Select a thumbnail, then click the  button in the toolbar, or select **Edit** from the **File** menu to display the selected image in the editing program specified in the Preferences dialog.



**Edit** button

The editing programs listed are those selected in the Still Image (🐢 108) and Movie tabs (🐢 109) of the Preferences dialog. If Nikon Capture 4 Editor is selected as the editor for still images, Nikon Capture 4 Editor will start (🐢 135). If you have not yet specified or registered an image editing program, the Add/Remove Editing Program dialog will appear automatically. To open the dialog on subsequent occasions, see the instructions below.

### Registering Image Editing Programs

The Add/Remove Editing Program dialog is used to register (and also to remove) the image editing programs of your choice. Click **Add** to register an image editing program. Registering additional editing programs allows you to use an editing application other than the program specified in the Preferences dialog. Open registered editing programs using the **Edit** button pull down menu, or by selecting **Edit using other program** from the **File** menu.

### Displaying the "Add/Remove Editing Program" Dialog

To display the "Add/Remove editing program" dialog, select **Edit using other program** > **Add/Remove editing program…** from the **File** menu, or click the triangle to right of the  button and select **Add/Remove editing program…** from the menu that appears.



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*The "Add/Remove Editing Program" Dialog*



### Program list
The registered programs are displayed in the list.

### Move up / Move down
Click to move the program selected in the program list up and down.   This changes the order in which programs displayed when the **Edit** tool button is clicked or **Edit using other programs** selected from the **File** menu.

### Add
Click to display the Add Program dialog, where you can select and register programs.
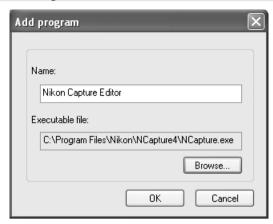
### Change
Click to display the Change Program dialog, where you can change the name of the registered programs.

### Delete
Click to remove the selected program from the program list.   Note that the program itself is not deleted.

*The "Add Program" Dialog*
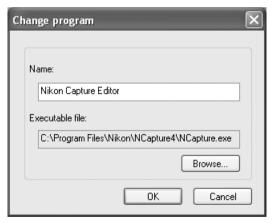
### Name

You can assign a name to the program selected in "executable file" text box. The program is added to the program list with this name instead of the actual program name.

### Executable file

Displays the path and file name of the program that will be added. To add a different program to the program list, click **Browse…** and select the program you want to add. Click **OK** to add the selected program to the program list.
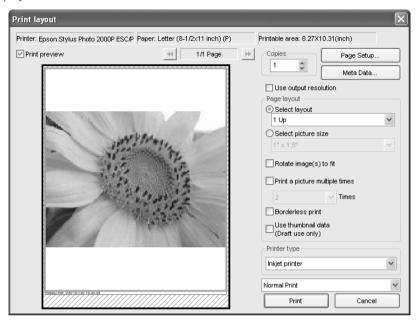
*The "Change Program" Dialog*

In the Change Program dialog, you can change the name of the program that appears in the Edit tool button pull down menu, and in the **Edit using other programs** sub-menu. This does not affect the name of the original program.

## Printing Images

To print one or more still pictures, select the thumbnails in the thumbnail list and click the 🖺 button in the toolbar, or select **Print** from the **File** menu. The "Print Layout" dialog will be displayed.



After adjusting settings (see below), click **Print** to start printing. Clicking **Cancel** closes the Print Layout dialog without printing.

### Printer/Paper/Printable area

These text boxes display current printer settings. To change printer settings, click the **Page Setup...** button (see below).

| | |
|---|---|
| Printer | Displays the currently selected printer. |
| Paper | Displays the current paper size. |
| Printable area | Displays the maximum dimensions of the area that can be printed per sheet at current printer and paper size settings. |

### Print preview

Check this option to display a preview of how the images will print on the currently selected printer. Click the next page button to page through the selected images.

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📝 **Printing with Color Management**

The printer profile used when printing from Nikon Browser or Nikon Viewer can be selected from the Color Management tab of the Preferences dialog in Nikon Browser (🎿 112,114), Nikon Viewer, Nikon Capture 4 Editor (🎿 211, 213) , or Nikon Capture 4 Camera Control.

### Copies (Windows only)

Choose the number of copies that will be printed. You can print anywhere from 1 to 100 copies.

In the Macintosh version, the number of copies is not displayed in the Print Layout dialog. To specify the number of copies, click **Print**. A confirmation dialog will be displayed; click **Yes** to proceed with printing and specify the number of copies.

### Page Setup…

Click to display a Printer Settings dialog in which you can modify the printer and paper settings. If you are using a Macintosh, the appearance of this dialog depends on the printer in use. The changes made are reflected in the "Printer," "Paper," and "Printable area" fields.

### Meta Data…

To choose the information to be included with each print, click **Meta Data…**. The "Meta data print setup" dialog will be displayed; adjust the following settings and click **OK** to return to the "Print layout" dialog.

Depth level
Put a check in the box next to the level of information you want included with your prints. Choose from:
- **Basic**: file name and date and time of recording
- **Additional information**: camera model, shutter speed, aperture (f/-number), image size, exposure mode, and white balance
- **Detail information**: metering mode, exposure compensation, focal length, autofocus mode, and sensitivity (ISO equivalency)

To change the font used to print shooting information, click **Change**.

Imprint capture date over image
Select **Date only** to print the date of recording on the image, or **Date and Time** to print the date and time of recording. To choose the font used to print the date or date and time, click **Change**.

### Use output resolution

Check this option to print the image at its native resolution and dimensions. In Nikon Capture 4, this is the size and resolution selected in the Nikon Capture 4 Editor Size/Resolution palette (👆 192). If the image will not fit in the printable area (see above) at the current printer and paper size settings when you click the **Print** button to begin printing, a message will be displayed warning that the image will be cropped to fit the printable area. Choose a larger paper size or reduce the size of the image using the Size/Resolution palette.

**Use output resolution** is not available when multiple images are selected.

*Page Layout*

Choose from **Select layout** and **Select picture size** and adjust options as described be-low.
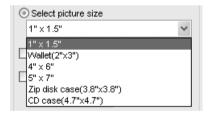
### Select layout

When this option is selected, you can choose the number of images that will be printed from a drop-down menu.

| Option | Page orientation | |
| --- | --- | --- |
| | Portrait | Landscape |
| **1 Up** | One image printed in center of page | One image printed in center of page |
| **2 Up** | Two pictures printed one above the other | Two pictures printed side-by-side |
| **2 × 2 Up** | Four pictures printed in two rows of two columns each | Four pictures printed in two rows of two columns each |
| **2 × 4 Up** | Eight pictures printed in four rows of two columns each | Eight pictures printed in two rows of four columns each |
| **4 × 4 Up** | Sixteen pictures printed in four rows of four columns each | Sixteen pictures printed in four rows of four columns each |
| **5 × 5 Up** | Twenty-five pictures printed in five rows of five columns each | Twenty-five pictures printed in five rows of five columns each |
| **5 × 8 Up** | Forty pictures printed in eight rows of five columns each | Forty pictures printed in five rows of eight columns each |
| **Image information list** | Print page consisting solely of the following information for the selected images: file name, camera make and model, exposure program, date and time of creation, shutter speed, aperture, and white balance. | |

The size of the images is automatically adjusted according to the layout. Select **Rotate imag-es to fit** to rotate images to print at the largest size that will fit on the selected paper size.

### Select picture size

When this option is selected, you can choose print size from a drop-down list.



### Rotate image(s) to fit

Check this option to automatically rotate each image so as to minimize the unused space inside each image frame.

### Print a picture multiple times

To print multiple copies of each image, check this option and select a number from between two and ten from the pull down menu. Select **The whole page** to print enough copies of the image to fill the whole page at the selected size.

### Borderless print (Windows)/Eliminate white border (Macintosh)
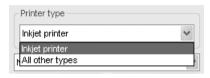
Check this option to adjust the image size so that it fits exactly inside the red border, without leaving any white space. If the aspect ratio of the box and the image differ, part of the image may not be printed.

Use thumbnail data
Check this option to print the pictures at draft resolution using thumbnail data.  Recommended for draft prints only.

*Printer type*
Choose from **Inkjet printer** or **All other types**.

Inkjet printer
We recommend this option when printing on inkjet or color laser printers.  The selected images will be printed at high quality and speed at the highest resolution supported by the printer (if the printer supports resolutions higher than 360 dpi, the images will print at 360 dpi).

All other types
Select this option when printing in color on devices that use dye-sublimation or photographic processes.  The selected images will be printed at the highest resolution supported by the printer.  Print speed may drop if you choose this option when using an inkjet printer.

*Normal Print / Save [Print Image] as file*
Select whether to print images on a printer, or to save the page as an image file.

Normal Print
Outputs the selected images to a printer.
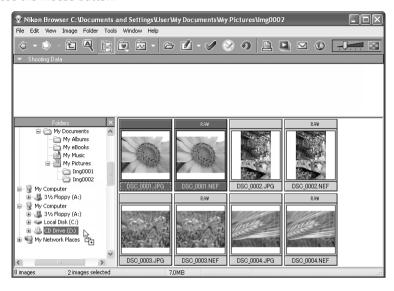
Save [Print Image] as file (Windows)/Save image files (Macintosh)
Saves the page as a JPEG file using the layout specified in the "Page Layout" dialog.  When this option is selected, the **Print** button in the "Page Layout" dialog will change to **Save**.  Clicking the **Save** button displays the "Save Image(s)" dialog, where you can choose a destination folder and file name and select **Quality** (JPEG compression) from **Maximum**, **High**, **Medium**, or **Low**.  Each page is saved as a separate file.

## Creating a Photo CD (Windows XP)

If the computer is equipped with a CD-R or CD-RW drive, images selected in Nikon Browser can be copied to CD.

**1** Select images in the thumbnail list.

**2** Drag the selected thumbnails over the CD-R or CD-RW drive icon in the folder tree and release the mouse button.



### ✏ Viewing the File List

To list the files that will be copied to CD, Click the CD-R or CD-RW drive icon once to select it and choose **Display file list for CD writing…** in the **File** menu, or click the CD-R drive icon with the right mouse button and select **Display file list for CD writing…** in the menu that appears.



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3 Click the CD-R or CD-RW drive icon once to select it and choose **Write to CD...** in the **File** menu, or click the CD-R drive icon with the right mouse button and select **Write to CD...** in the menu that appears.  The "CD Writing Wizard" will be displayed.

| File | |
|---|---|
| New Folder | Ctrl+N |
| View... | |
| Edit | Ctrl+E |
| Edit using other programs | ▶ |
| Write to CD... | |
| Display file list for CD writing... | |
| Eject... | |
| Proparties... | |
| Rename a file or a folder | F2 |
| Move... | |
| Copy... | |
| Page Setup... | |
| Print... | Ctrl+P |
| Exit | Alt+F4 |

4 After making sure that a CD-R or CD-RW disk is inserted in the drive, enter a volume name for the new CD and click **Next** to begin copying files.

5 The following dialog will be displayed when all files have been copied. Click **Finish**.



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📝 **Before Copying Files**

If the computer is equipped with multiple CD-R or CD-RW drives, only one can be used for creating CDs. To enable the write option for a selected drive, open the "Properties" dialog to the "Write" panel and select **Enable CD write**.

The drive used for temporary storage during the write operation must have sufficient free space to store the temporary files. The drive used for temporary storage can be selected in the "Write" panel of the "Properties" dialog for the CD-R or CD-RW drive.

Make sure that the CD-R or CD-RW disk used has enough free space to store the selected files.

## Creating a Photo CD or DVD (Mac OS X 10.2.3 or Later)

If the computer is equipped with a CD-R/W or DVD-R/W drive, images selected in Nikon Browser can be copied to a CD or DVD.

1 Select images in the thumbnail list.

2 Drag the selected thumbnails over the "Disc Burner Folder" icon in the folder tree and release the mouse button. The selected files will be copied to the "Disc Burner" folder.
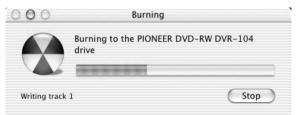


3 The name assigned to the "Disc Burner" folder will be copied to the volume label for the new CD or DVD. To choose a new name for the "Disc Burner" folder, select it and choose **Rename a file or folder** from the **File** menu.

4 With the "Disc Burner" folder selected, choose **Burn Disc…** from the **File** menu. The "Burn Disc" dialog will be displayed.

5 Insert a disk in the CD-R/W or DVD-R/W drive and click **Burn**. The following dialog will
be displayed while files are copied.



Once all the files have been copied, the disk will be ejected automatically.

6 To copy the same files to another disk, repeat steps 3–5. Otherwise delete the contents
of the "Burn Disc" folder.

📎 **Inserting a Disk**
Wait until the "Burn Disc" dialog is displayed before inserting a disk.

📎 **Disk Space**
A disk can not be created if the size of the "Burn DIsc" folder exceeds the capacity of the disk. The
size of the "Burn Disc" folder can be viewed in the status bar when the "Burn Disc" folder is selected
in the folder tree.

## Creating JPEG Copies

The **Copy and Resize as JPEG file(s)** option in the **Tools** menu can be used to create JPEG copies of selected TIFF and NEF (RAW) at a specified size compression rate (image quality), or to create resized copies of JPEG images at a new compression rate. Select the images in the thumbnail list and select **Copy and Resize as JPEG file(s)** option in the **Tools** menu. The following dialog will be displayed.
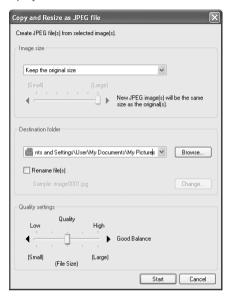


*Image size*
Choose a size for the new JPEG copies from the following options:

### Keep the original size
The JPEG copies will be the same size as the originals.

### Fit to the new fixed frame size
Choose a size using the slider. Options range from **Small** (160 × 120 pixels) to **Large** (1600 × 1200 pixels).
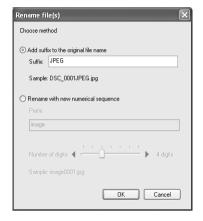
### Apply a fixed reduction ratio to all images
Copies will be reduced by the specified amount. Choose from options ranging from **Small** (1⁄25) to **Large** (¼) using the slider.

*Destination folder*
The current destination for JPEG copies is displayed in this text box. To choose a new location, click **Browse…** and navigate to the desired drive and folder.

### Rename file(s)

Select this option to save the copies under new names assigned automatically according to user-specified rules. Click **Change…** to display the "Rename file(s)" dialog, where a naming rule can be chosen (👹 43).

*Quality settings*
Choose an image quality (JPEG compression ratio) using the slider. Options range from **Low** (high compression ratio, small file size) to **High** (low compression ratio, large file size). The lower the compression ratio, the better the quality and the larger the file size. Note that the quality of JPEG images can not be increased by saving the copy at a lower compression ratio than the original.

Click **Start** to copy the selected images. An ICC profile will be embedded in all copies created using this option.

---

📎 **sRGB**

If **Convert image(s) to sRGB color space...** is selected in the "Color Management" tab of the Nikon Browser "Preferences" dialog (👹 112,114) , copies will be converted to the sRGB color space (👹 264).

## Slideshows

In Nikon Browser, you can view the image files associated with the selected thumbnails as a slideshow.

### Displaying the Slideshow Properties Dialog

To view a slideshow, select the thumbnails of the image files you want to view in the thumbnail list area, then click the **Slideshow** button in the tool bar or select **Slideshow** from the **Tools** menu.



**Slideshow** button

The slideshow window is displayed with the Slideshow Properties dialog displayed in front of the slides. You can change the slideshow settings using this Slideshow Properties dialog.



You can show or hide the Slideshow Properties dialog by pressing the TAB key.

✎ **When a Single Thumbnail is Selected**

If only one thumbnail is selected in the thumbnail list, the slideshow will include all images in the current folder.

✎ **Slideshow**

Slideshow technology licensed from iView Multimedia Ltd .2002.

### The Slideshow Options Dialog

#### The Files Tab

Displays a list of file names (and in Windows, file paths) of the image files that are currently displayed in the slideshow.

#### The Options Tab

This tab controls how slides are displayed.

##### Play movies to end

Check this option to play movies to the end before showing the next slide. If this option is not checked, the next slide will be shown after the specified interval whether or not the movie has finished.

##### Play sound for all movies

Check this option to play back sound with all the movie files included in the slideshow.

##### Display file Info

Check this option to display the file location, size, and zoom ratio under each slide.

##### Enable margin between grid cells

If you selected a stage grid option that displays multiple slides at the same time, checking this option leaves margins between slides. If this option is not checked, no margins will be displayed.
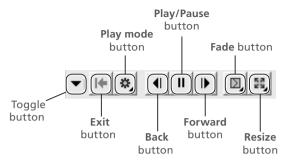
##### Grid style

Select the format and number of slides to display at the same time.

*The Toolbar*

The toolbar has buttons to control the playback of the slideshow, and buttons to specify how the slides are displayed.



**Toggle** ▼|

Toggles between the slides and the options tab.

**Exit** |←

Exits the slideshow

**Play mode** 🌣⌄

Use this button to specify how the slideshow will be played back. Select **Click to advance** to switch slides interactively by clicking the mouse button, **Continuous** to play the slideshow again after the last slide is displayed, or **Random** to play the slideshow in random order.

**Back** ◄|

Displays the previous slide.

**Play /Pause** ‖

Pauses the slideshow when playing or starts it again when paused. When you select **Click to advance** using the play mode button, the button icon takes the shape of a computer mouse, on which you can click to display the next slide.



Mouse icon

**Forward** |►

Displays the next slide.

**Fade** ▣⌄

Use this button to select how one slide fades into or out of another.

**Resize** ▦⌄

Use this button to select the zoom ratio of the slides. You can also adjust the aspect ratio, or adjust the size of the slides to fit the screen.

*The Status Bar*

You can control the sound volume on the status bar.  You can also check the number of the remaining slides and the total number of slides, and specify the interval between slide changes, in the range of 1 to 60 seconds.



Volume control                                        Time display control

*Changing the Size of the Slideshow Properties Dialog*

You can expand or collapse the Slideshow Properties dialog by clicking the toggle button in the toolbar.
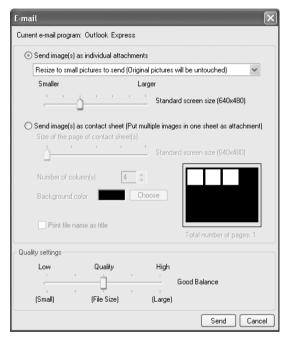


Slideshow Properties dialog (collapsed)

Toggle button

**Interval**

The interval between slide changes may vary depending on the file size of the images displayed.

## Sending Images by E-Mail

Images displayed in the thumbnail list area can be appended to e-mail messages. To send images, click the ✉ button in the tool bar or select **E-mail** from the **Tools** menu.

**E-mail** button

Settings, including the size of the image to be e-mailed, can be adjusted in the "E-mail" dialog.



### 🖉 **sRGB**
If **Convert image(s) to sRGB color space...** is selected in the "Color Management" tab (🐌 112, 114) of the Nikon Browser "Preferences" dialog, images sent by e-mail will be converted to the sRGB color space (🐌 264).

### 🖉 **Using E-mail**
In order to use the e-mail option in Nikon View 6, your computer must be correctly configured to send e-mail. Note that you may incur charges from your Internet service provider and telephone company when you send e-mail.

### 🖉 **Voice Memos**
Voice memos attached to Exif files can not be sent by e-mail.

*Current e-mail program*
When you click **Send** (see following page), your e-mail will be sent using the application shown here.

*Send image(s) as attachments*
Choose whether to send the selected images as individual files or in "contact sheets" containing multiple images.

### Send image(s) as individual attachments
Select **Resize to small pictures to send (Original pictures will be untouched)** to create small copies of the selected images to attach to an e-mail message, or **Keep the original sizes (the files may be very large)** to create copies the same size as the selected images. When **Resize to small pictures to send (Original pictures will be untouched)** is selected, the attachments can be resized using the slider. Seven different sizes are available.

### Send image(s) as contact sheet (Put multiple images in one sheet as attachment)
Choose this option to create attachments consisting of one or more "contact sheets," each of which contains multiple images displayed together in a single image file. Specify the size of the contact sheet using the **Size of the page of contact sheet(s)** slider (five sizes are available) and choose how the pictures in each contact sheet will be arranged using the **Number of column(s)** control. The current background color for all contact sheets is shown next to **Background color** box; to select a new color, click **Choose**. If **Print file name as title** is selected, file names will appear on the images in the contact sheet.

*Quality settings*
This slider controls how much the copies will be compressed. Five settings are available; the lower the compression ratio, the better the quality and the larger the file size. Note that if **Keep the original sizes** is selected when files are sent as image attachments, the existing compression ratios of any JPEG images in the selection will not be changed if:
• The **Convert image(s) to sRGB color space...** check box in the "Color Management" panel of the Nikon Browser or Nikon Viewer Preferences dialog is off, or
• No ICC profile is embedded in the image or the picture was recorded in the sRGB color space (i.e., the picture was taken with a COOLPIX camera or with a D1x, D1H, 100 or D2H camera in color mode I or III, which are optimized for the sRGB color space).

---

**✐ E-mail Applications**
The following e-mail applications are supported:
• *Windows*
  Outlook Express, Outlook, Eudora (Eudora is not supported under Windows XP Home Edition or Windows XP Professional)
• *Macintosh OS 9.0, 9.1, 9.2*
  Outlook Express, Eudora, Entourage
• *Macintosh OS X*
  Outlook Express, Entourage X, Mail

The application used is that currently selected as the default e-mail program for your operating system. The default program can be changed using the Internet settings in the Control Panel (Windows), Control Panels (Mac OS 9), or System Preferences (Mac OS X).

---

*Send*
Click this button to start the e-mail application listed next to **Current e-mail program**. If you selected **Resize to small pictures to send** or are sending TIFF or NEF (RAW) images, the following dialog will be displayed, informing you that copies of the selected images will be created in compressed JPEG format. It is these copies that will be attached to the e-mail message; the original images are not affected. Click **OK** to close the dialog and send the images.

**Confirmation**

Confirm that all non-JPEG files will be converted to JPEG files to be sent. (Original files will be untouched.)

☐ Don't show this message again

[ OK ]    [ Cancel ]

## Uploading Images

Customers in some areas can use Nikon View 6 to upload still images to free on-line photo albums at Nikon-sponsored web sites. At the time of writing, this service was available to customers in the United States of America. To use this service, American users must register with NikonNet (*http://www.nikonnet.com/*). More information on on-line photo albums and other services available through NikonNet.

### Uploading Images to NikonNet (American Customers Only)

**1** Select images for upload
In the thumbnail list area, select one or more image file thumbnails to upload.

**2** Click 🌐
Click the 🌐 button in the Nikon Browser toolbar, or select **Publish to NikonNet or PDA** from the **Tools** menu.

**Publish to NikonNet or PDA** button

🖉 **Transferring Images to a Palm Organizer[1] (North, South, and Central America Only)**
Nikon Browser can be used to transfer images to a Palm organizer if Palm Desk Top[2] and Photobase for Palm[2] were already installed when you installed Nikon View 6. To transfer images:
• Select **Photo Base for Palm Sync.** from the Service Choice pull-down menu in Step 3 of "Uploading Images to NikonNet." After making sure that your Palm is inserted in the cradle, and the cradle is connected correctly, click **OK**.
• To transfer the images, press the Hot Sync.® button on the cradle. Once transferred, images can be viewed on the device's screen.

You do not need to follow the rest of the steps in the Uploading image files section.

[1] For instructions on synchronization, refer to the documentation provided with your hand-held device.
[2] For instructions on installing and using this application, refer to the software documentation.

🖉 **Transferring Images to a Pocket PC[1] (Windows Only; Not Available Outside the Americas)**
Nikon Browser can be used to transfer images to a Pocket PC if Active Sync.[2] and Photobase for Pocket PC[2] were already installed when you installed Nikon View 6. To transfer images:
• Select **Photo Base for Pocket PC** from the Service Choice pull-down menu in Step 3 of "Uploading Images to NikonNet." After making sure that your Pocket PC is connected correctly, click **OK**.
• Use Microsoft Active Sync to transfer the images to your Pocket PC. Once transferred, images can be viewed on the device's screen.

You do not need to follow the rest of the steps in the Uploading image files section.

[1] For instructions on synchronization, refer to the documentation provided with your hand-held device.
[2] For instructions on installing and using this application, refer to the software documentation.

🖉 **Hot Sync**
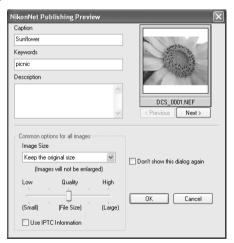Hot Sync is a registered trademark of Palm Inc.

3 Choose whether to upload images to NikonNet or a hand-held device
If a hand-held device (PDA) is connected to your computer, the Module Selection dialog will be displayed.  If there are no hand-held devices connected to your computer, proceed to Step 4.

**Module Selection**

| | |
|---|---|
| Service Choice | Nikon.net Uploader |
| User Name | Nikon1019 | ☐ Don't show this dialog again |
| Password | ************ | ☐ Remember Password |

New Member?　　OK

Forgot Password?　　Cancel

To upload images to NikonNet, select **Nikon.net Uploader** from the Service Choice pull-down menu, enter your NikonNet user name and password, and click **OK**.  For more information on transferring images to a hand-held device, see the notes on these pages.  Additional information on the options available in the Module Selection dialog is provided in "The Module Selection Dialog" ( 92).

4 Choose upload options
The Upload Preview dialog will be displayed.  After adding information to the image files or resizing the images, click **OK** to continue.  For more information, see "The Upload Preview Dialog" ( 94).

**NikonNet Publishing Preview**

Caption
Sunflower
Keywords
picnic
Description

DCS_0001.NEF
< Previous　　Next >

Common options for all images
Image Size
Keep the original size
(Images will not be enlarged)

☐ Don't show this dialog again

Low　　Quality　　High

(Small)　(File Size)　(Large)
☐ Use IPTC Information

OK　　Cancel

✎ **RAW (NEF) and TIFF Images**
RAW (NEF) and TIFF images are converted to JPEG before upload.

If the Module Selection dialog was not displayed in Step 3, the NikonNet User Information dialog will appear prompting you to enter your NikonNet user name and password.

**5** Choose an album
In the "Choose Album" dialog, select the album to add the images to, or create a new album.  For more information, see "The Choose Album Dialog" ( 96).

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📎 **Publishing to NikonNet**
An Internet connection is required to publish your images to NikonNet.  Note that telephone charges and fees charged by your Internet Service Provider (ISP) may apply.  When registering for NikonNet, you must have an address in the USA with a valid Zip code.

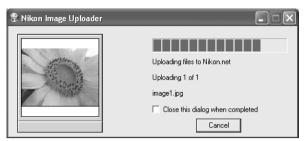📎 **Uploading Images**
Nikon View will not disconnect after uploading images via a modem or ISDN terminal adapter.  Terminate the connection manually.

📎 **sRGB**
If **Convert image(s) to sRGB color space...** is selected in the "Color Management" tab of the Nikon Browser "Preferences" dialog ( 112, 114), images will be converted to the sRGB color space as they are uploaded to NikonNet ( 264).

**6** Click **OK**
The images will be uploaded to the selected album.
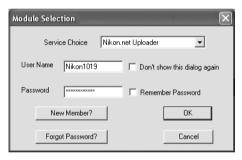


### Uploader Dialogs (North, South, and Central America Only)
This section describes options available in the dialogs displayed when you upload images to NikonNet using the Upload to NikonNet or PDA option in Nikon Browser. This option is available only in the Americas.

#### The Module Selection Dialog
This dialog is where you choose whether to upload images to NikonNet or to a hand-held device. This dialog is not displayed if a hand-held device is not currently connected to your computer.



Click **OK** to close this dialog and upload the selected images. Click **Cancel** to exit without uploading the selected images.

### Service Choice
Choose **Nikon.net Uploader** to upload images to an on-line photo album on NikonNet (this service is restricted to customers in the USA). If you have installed Palm Desk Top and Photobase for Palm, you can also choose **Photo Base for Palm Sync.** to upload images to your Palm organizer ( 89). If Active Sync. and Photobase for Pocket PC are installed on your computer, you can upload images to a Pocket PC using the **Photo Base for Pocket PC** option ( 89).

### User Name
If you selected **Nikon.net Uploader** from the Service Choice menu, enter your NikonNet user name in this text box.

### Don't show this dialog again
Check this option to skip the Module Selection dialog the next time you upload images. To display the dialog again, click **Clear** in the Publish to NikonNet or PDA tab of the Preferences dialog ( 117).

### Password
If you selected **Nikon.net Uploader** from the Service Choice menu, enter your NikonNet password in this text box.

### Remember Password
If this option is checked, your password will automatically be entered for you the next time the Module Selection dialog is displayed.

### New Member?
Click to display the NikonNet user registration page in your Web browser. If you are not yet a member, click this button to register.
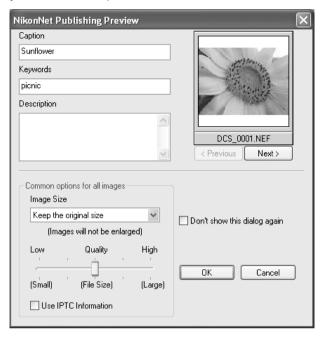
### Forgot Password?
Click to display the NikonNet password assistance page in your Web browser. If you forget your password, click this button and supply the necessary information.

*The Upload Preview Dialog*

In the Upload Preview dialog, you can resize the images uploaded to the album and add a caption, keywords, and description.



When multiple images are selected for upload, you can use the **Next** and **Previous** buttons under the preview to display additional images. Click **OK** to close this dialog and upload the selected images at the specified settings. Click **Cancel** to exit without uploading the selected images.

### Caption
Enter a caption for the image currently displayed in the preview area. The caption will appear in the on-line album.

### Keyword
Enter keywords for the image currently displayed in the preview area. The keywords will appear in the My Pictures section.

### Description
Enter a description for the image currently displayed in the preview area. The description will appear in the on-line album.

### Don't show this dialog again
Check this option to skip the Upload Preview dialog the next time you upload images. To display the dialog again, click **Clear** in the Publish to NikonNet or PDA tab of the Preferences dialog (🔊 117).

### Image Rotation (Macintosh only)
Rotate the current image clockwise or counterclockwise.

### Common options for all images
*Image size*
Images will be uploaded to the on-line album at the size specified. Images smaller than the specified size will not be resized.

*Quality*
This slider controls how much the images will be compressed. Five settings are available; the lower the compression ratio, the better the quality and the larger the file size. Note that if **Keep the original size** is selected when files are uploaded, the existing compression ratios of any JPEG images in the selection will not be changed if:
- The **Convert image(s) to sRGB color space...** check box in the "Color Management" panel of the Nikon Browser or Nikon Viewer Preferences dialog is off, or
- No ICC profile is embedded in the image or the picture was recorded in the sRGB color space (i.e., the picture was taken with a COOLPIX camera or with a D1x, D1$_H$, or D100 camera in color mode I or III, which are optimized for the sRGB color space).

*Use IPTC Information*
Select this option to copy the object name, keywords, and caption from the IPTC information for all files to the title, keyword, and comment fields, respectively.

*The Choose Album Dialog*

In the Choose Album dialog, you can select the on-line photo album to which images will be uploaded, or create a new album for the uploaded files.

Click **OK** to close this dialog and upload the selected images to the album selected under Current Albums. Click **Cancel** to exit without uploading the selected images.

### Current Albums
Select the destination album from the drop-down menu. The selected images will be uploaded to this album when you click **OK**.

### Create New Album
To create a new album, enter a name and description for the album in the Name and Description text boxes and click **Create**. The new album will be added to the list of current albums.

### Don't show this dialog again

Check this option to skip the Choose Album dialog the next time you upload images. When this option is selected, you must choose whether images will be automatically uploaded to the last album selected in the Current Albums menu or to a new album created automatically when the images are uploaded. To display the Choose Album dialog again, click **Clear** in the Publish to NikonNet or PDA tab of the Preferences dialog (👾 117).

#### Always upload to current album

Select this option to always upload the files to the most recently used album.
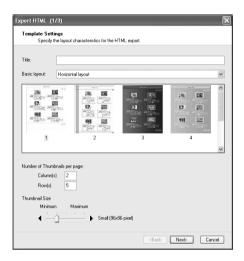
#### Always create new album

Select this option to create a new album every time you upload the image files.

## Creating HTML Albums

Images selected in the thumbnail list can be exported to an HTML "album" with a user-speci-fied title. When the album is viewed in a web browser, the selected images will be displayed as rows of thumbnail images, with a caption and other selected information next to each thumbnail. Clicking a thumbnail will display the associated image at a larger size.

1 Select images in the thumbnail list.

2 Select **Export as HTML…** in the **Tools** menu. The following dialog will be displayed:



3 Choose a title and layout using the following options:

### Title
Enter the title that will be displayed at the top of each page.

### Basic layout
Choose **Horizontal layout** to arrange pictures one or more pictures in a row with a caption under each picture, or **Vertical layout** to display one thumbnail per row, with the caption to the right of the picture. Choose a background and page style from the samples displayed in the preview list.

### Number of Thumbnails per page
Enter the maximum number of **Columns** (**Horizontal layout** only) and **Rows** that will be displayed on each page.

### Thumbnail Size
Choose the thumbnail size using the slider.

**4** Click **Next**. The following dialog will be displayed:



**5** Choose the information that will be displayed next to each image:

Display File Name
Select this option to display the file name. When the album is displayed in a web browser, clicking the file name will display the image at a larger size.

Display Date and Time
Choose **Capture Date** to display the date and time of recording, **Use Date and Time when pictures were last modified** to display the date and time the image was last modified.

Display Shooting Data
Display the camera name, shutter speed, aperture, exposure mode, metering, exposure compensation, white balance, and sensitivity.

Display IPTC information
Display the object name, caption, and keywords (to edit IPTC information for selected images before creating an album, choose **IPTC Information** in the **File** menu).

Details…
Click to adjust image size and quality settings for the large images in the album, choose whether to include voice memos and movies, and choose a file-naming convention (🔆 101).

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📎 **NEF (RAW) and TIFF Images**
NEF (RAW) and TIFF images will be converted to JPEG for export to HTML albums.

📎 **sRGB**
If **Convert image(s) to sRGB color space...** is selected in the "Color Management" tab of the Nikon Browser "Preferences" dialog (🔆 112, 114), images will be converted to the sRGB color space as they are exported to HTML albums (🔆 264).

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*99*

**6** Click **Next**. The following dialog will be displayed:



**7** Choose a destination for the HTML album:

### Destination folder
The current destination is displayed here. To choose a new destination, click **Browse…** and navigate to the desired location.

### Create a new subfolder
Choose this option to save each album in a separate sub-folder. Sub-folders are assigned names consisting of a prefix and a folder number assigned automatically by Nikon View; a sample is displayed under the **Create a new sub-folder** check box. To choose a new prefix or change the number of digits in the folder number, click **Change…**. The "Folder naming" dialog will be displayed; choose a naming rule using the following options:

*Folder name*
Enter a prefix.

*Numbering digit*
Choose the number of digits in the folder number using the slider.



### Open your web browser after creation
Select this option to display the album in the default web browser after creation.

---

🖉 **ISO 9660 Level 1 File Name Compatibility**
The maximum length for ISO 9660 level 1 file names is eight characters. If **Change file name for compatibility with ISO9660 level 1** is selected in the "File Name" tab of the "Details" dialog (🏵 102), the prefix and folder number will be truncated to a maximum length of four characters each.

---

**8** Click **Start** to create the album.

### The "Details" Dialog
Clicking the Details… button in Step 5 displays the "Details" dialog. The "Details" dialog has three tabs: "Still images," "Movies," and "File Name." After adjusting settings as described below, click **OK** to return to the "Export HTML" dialog.

*The "Still Images" Tab*
The "Still Images" tab is used to specify the size and quality of the enlarged image displayed when a thumbnail is clicked in the HTML album (note that if the album is viewed in a web browser that does not support display of JPEG images, the file name will be displayed instead). Select **Include sounds** to include voice memos in the album.

Set Image size
Choose from the following options:

> Keep the original size
> Pictures will be the same size as the original images.

> Fit to the new fixed frame size
> Choose a size using the slider. Options range from **Small** (160 × 120 pixels) to **Large** (1600 × 1200 pixels).

> Apply a fixed reduction ratio to all images
> Pictures will be reduced by the specified amount. Choose from options ranging from **Small** (¹⁄₂₅) to **Large** (¼) using the slider.

Compression Ratio
Choose an image quality (JPEG compression ratio) using the slider. Options range from **Low** (high compression ratio, small file size) to **High** (low compression ratio, large file size). The lower the compression ratio, the better the quality and the larger the file size.

Include sound(s)
Select this option to export voice memos to the HTML album. A "play" button will be displayed next to the thumbnail of the associated image; clicking the button plays the voice memo.

🖉 **Compatible Web Browsers**
Albums created in Nikon Browser are compatible with Microsoft Internet Explorer 5.0 or later and with Netscape Navigator 4.0 or later.

🖉 **Image Files**
ICC profiles are included in images exported in HTML albums. Thumbnail data and photo information are not included.

*The "Movies" Tab*
Select **Output Movie** to include movies in the album.

**Output Movie**
Select this option to export movies to the HTML album. The album will include a "play" button that can be clicked to play the associated movie.
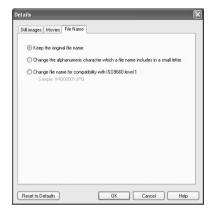
*The "File Name" Tab*
The options in this tab can be used to modify file and folder names for compatibility with different operating systems.

**Keep the original file name**
Select this option to export pictures to HTML albums under their original file names.
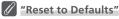
**Change the alphanumeric character which a file name includes in a small letter**
HTML uploaded to a case-sensitive web server may not display correctly unless file names have been converted to lower case. Select this option to convert all upper-case letters to lower case. For more information, contact the server administrator.

**Change file name for compatibility with ISO9660 level 1**
HTML may not display correctly on some web servers or operating systems if file names do not conform to the ISO 9660 level 1 standard of an eight-character file name with a three-letter extension. Select this option to convert thumbnail names to "thm*nnnnn*.jpg," where "nnnnn" is a five-digit number assigned by Nikon View. Image file names will similarly be converted to "img*nnnnn*.jpg."
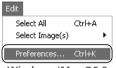
✎ **"Reset to Defaults"**
To reset settings in the "Details" dialog to their original values, click **Reset to Defaults**. A confirmation dialog will be displayed; click **Yes** to reset all settings to default values.

# Nikon Browser Preferences

*Fine-Tuning Nikon Browser*

To display the Nikon Browser "Preferences" dialog , select **Preferences** from the **Edit** menu (Windows/Mac OS 9) or the application menu (Mac OS X). You can also display the Preferences dialog box by clicking the **Preferences** tool button.

**Windows/Mac OS 9**

**Mac OS X**

The Preferences dialog contains the following tabs:

| Tab | Description | ☙ |
|---|---|---|
| General (Macintosh only) | Choose the volume used for temporary storage. | 104 |
| Auto Launch | Choose whether Nikon Transfer starts automatically when a memory card from a supported camera is detected. | 105 |
| Thumbnails | Choose whether to create thumbnails from the original image data. | 106 |
| Still image | Choose the applications that will be used to play back or edit still images. | 108 |
| Movie | Choose the applications that will be used to play back or edit movies. | 109 |
| Sound (Windows only) | Choose the application that will be used to play back voice memos. | 111 |
| Color Management | Select the color profiles used by the Nikon Color Management System (CMS). | 112, 114 |
| Publish to NikonNet or PDA (Americas only) | Options for uploading images. | 117 |

After making changes to preferences, click **OK** to save changes and return to the Nikon Browser window. Click **Cancel** to cancel any changes to settings and return to the Nikon Browser window.

🖉 **Viewing Preferences**

To view settings in any of the panels, click the appropriate tab.
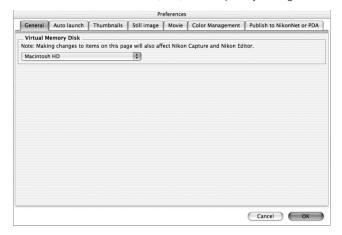
**Tab**

## The General Tab (Macintosh Only)

The General tab is used to select a volume (disk) for temporary storage.



### *Virtual Memory Disk*

Choose the volume used for storage of temporary data, including image cache data, from the pull-down menu. The default volume for temporary storage is the start-up disk.

🖉 **The General Tab**

Changes to settings in the General tab also apply to Nikon Capture 4 Editor and Nikon Capture 4 Camera Control.Nikon View 6 must be restarted before changes to settings will take effect.

## The Auto Launch Tab

The options in the Auto Launch tab control whether Nikon Transfer will launch automatically.



*Auto launch when connected to a camera or a card*
Select this option to launch Nikon View 6 automatically when you turn the camera on and connect it to your computer or when you insert the memory card into the card reader or card slot.  When Nikon View 6 launches, the Nikon Transfer window will open.

*Disable auto launch*
Select this option if you do not want Nikon Transfer to launch automatically when a camera is connected or a memory card is inserted.

✎ **Windows XP Home Edition/Windows XP Professional**
In Windows XP Home Edition and Windows XP Professional, the **Disable auto launch** option is effective only with the D1/D1x/D1H and COOLPIX990/880 cameras.  When other cameras are connected, the **Disable auto launch** option is ignored and Nikon Transfer launches automatically.
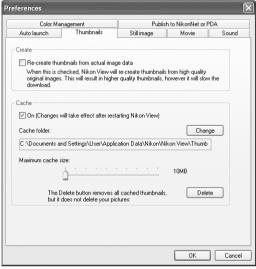
✎ **Mac OS X**
In Mac OS X, images can not be transfered when Nikon Transfer is started manually by selecting **Launch Nikon Transfer…** from the **Tools** menu in Nikon Browser.  Be sure to select **Auto launch when connected to a camera or card** before transferring images.
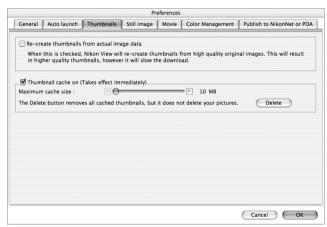
## The Thumbnails Tab

The Thumbnails tab contains options that determine how the thumbnails displayed in the Nikon Browser thumbnail list area are created.



Windows



Macintosh

*Create*
### Re-create thumbnails from actual image data
Check this option to create a high-resolution thumbnail from an image file and display the thumbnail in the Nikon Browser thumbnail list. Note that this will increase the amount of time needed to display thumbnails.

If this option is not selected, there will be some cases when the operating system's generic file icons appear in the thumbnail list area, instead of actual thumbnails. If generic file icons are displayed, click the check box to create thumbnails.

*Cache*
### On
If this option is checked, thumbnails that have already been displayed in Nikon Browser will be re-created from the cache data, decreasing the amount of time needed to display thumbnails.

### Cache folder (Windows only)
The cache folder field specifies the location to which cache files will be saved. To change the location, click **Change**.

### Maximum cache size slider
Use the slider to set the maximum size of the cache file. The maximum size can be set in the range of 10 MB to 100MB, at 10 MB intervals. If you reduce the maximum cache size, the current cache data will be deleted (Windows only).

### Delete
Click this button to delete all cached thumbnails (thumbnails will not be deleted until Nikon Browser restarts). The original images associated with the thumbnails will not be affected.

📝 **Cache Settings**

Changes to cache settings will not take effect until Nikon Browser is restarted.

## The Still Image Tab

The "Still image" is used to choose the default program for editing still images. The specified program will launch when you select **Edit** from the **File** menu in Nikon Browser or Nikon Viewer.



*Photo Editing Program*
### Use the default photo editing program selected by your Operating System
Select this option to edit images in the default image editing program for your operating system.
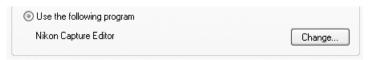
### Use the following program
Select this option to edit images in the image editing program of your choice. To choose a program, click **Change…** and select the program from the Select Program dialog.



| Windows | Macintosh |
|---------|-----------|

The name of the selected application is displayed under **Use the following program**.

## The Movie Tab

The Movie tab is used to select the applications used to view and edit movies.



*Movie Player Program*

**Use the default photo editing program selected by your Operating System**
Select this option to view movies in the default movie player for your operating system.

**Use the following program**
Select this option to view movies in the application of your choice.  To choose a program, click **Change…** and select the program from the Select Program dialog.



Windows



Macintosh

The name of the selected application is displayed under **Use the following program**.

*Movie Editing Program*
Same as movie player program
Select this option to edit movies using the program selected in the Movie Player Program area.

Use the following program
Select this option to edit movies in the application of your choice. To choose a program, click **Change…** and select the program from the Select Program dialog.



Windows                                              Macintosh

The name of the selected application is displayed under **Use the following program**.

## The Sound Tab (Windows Only)

Use the Sound tab to choose the application that will be used to play back voice memos when image files containing a voice memo are selected in Nikon Browser.

*Playback program*
Use Nikon View
Voice memos will be played back in Nikon View.

Use the default photo editing program selected by your Operating System
Select this option to play voice memos in the default audio player for your operating system.

Use the following program
Select this option to play voice memos in the application of your choice. To choose a program, click **Change…** and select the program from the Select Program dialog.

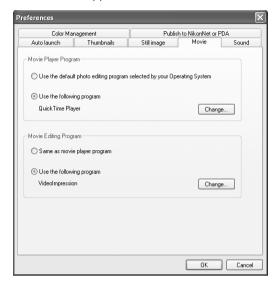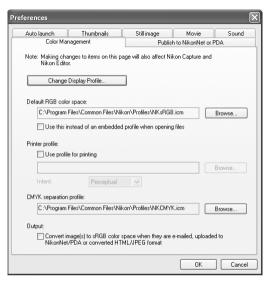The name of the selected application is displayed under **Use the following program**.

## The Color Management Tab (Windows)

The Color Management tab is where you specify the color management profiles used for displaying images on your monitor, editing and saving RGB images, and saving and printing CMYK images.



*Change Display Profile*

To choose a display profile, click **Change Display Profile…**. The Windows "Display Properties" dialog will be displayed; open the Settings tab and click **Advanced…** to open the display adapter properties dialog. To select a display profile, open the Color Management tab and click **Add**.

*Default RGB color space*

The output color-space profile used when working with RGB images is displayed here. Click Browse… to choose a new default RGB profile. If **Use this instead of an embedded profile when opening files** is checked, this RGB color space profile will be used for all images. If it is not checked, the profile embedded in each image will be used.

🔍 **Multiple Displays (Windows)**

In a multiple display environment, choose a single profile suited to all displays.

🔍 **The Color Management Tab**

Changes to settings in the Color Management tab also apply to Nikon Viewer, Nikon Capture 4 Editor, and Nikon Capture 4 Camera Control.

🔍 **Default Display Profile**

The default Windows display profile is "NKMonitor_win.icm." This profile is equivalent to sRGB.

### Printer profile
Specifies the printer profile to be used when printing images.

> #### Use profile for printing
> If this option is checked, you can choose a profile for printing by clicking the **Browse…** button.  The selected profile will appear in the adjacent text box.  If this option is not checked, the default RGB color space will be used.
>
> #### Intent
> If you have chosen to use a printer profile, the type of matching to be performed can be selected from **Relative** and **Perceptual**.  (Depending on the profile, changing the matching method may produce no change in output.  This option is not supported with some profiles; consult the manufacturer for details.)
>
> #### Relative
> Colors not in the gamut of the selected printer profile will be printed using the closest colors available.  Other colors are not affected.
>
> #### Perceptual
> If the image contains colors not in the gamut of the selected printer profile, all colors in the image will be compressed to fit the gamut.

### CMYK separation profile
Lists the profile used to convert RGB images to CMYK when saving images in CMYK-TIFF format.  To choose a different profile, click the **Browse…** button.

### Output
Check this option to convert the color space of image(s) to sRGB when you sent the image(s) by e-mail, upload to NikonNet, export as HTML file, save as JPEG file, or download to PDA devices. If the color space of the image(s) is already sRGB no conversion of the color space will be done. Set the color-space profiles for opening, saving, and converting image files.
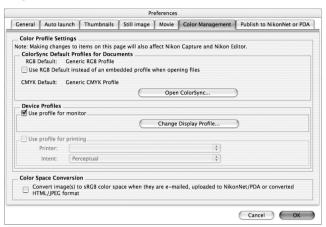
---

**RGB Color-Space Profiles**

## The Color Management Tab (Macintosh)

The Color Management tab is where you can specify the color management profiles used for displaying images on your monitor, editing and saving RGB images, saving and printing CMYK images, and settings for color space conversion.



### ColorSync Default Profiles for Documents

The default color-space profiles are displayed in this area.  Clicking the **Open ColorSync** button opens the ColorSync dialog to a panel where you can choose the default profiles for the RGB and CMYK color spaces .

> #### RGB Default
> Lists the output ICC color-space profile used when working with RGB images.  If **Use RGB Default instead of an embedded profile when opening files** is checked, this RGB color space profile will be used for all images.  If it is not checked, the profile embedded in each image will be used.
>
> #### CMYK Default
> Lists the profile used to convert RGB images to CMYK when saving images in CMYK-TIFF format.
>
> #### Open ColorSync
> Opens the ColorSync control panel (OS 9) or System Preferences (OS X), where you can choose the color profiles used.

*Device Profiles*
Lists the default color-space profiles for monitors and printers.

*Change Display Profile*
If the **Change Display Profile…** button appears next to this item, you can click the button to open the Monitor control panel (Mac OS 9) or the Displays section of the System Preferences dialog (Mac OS X).  Click the **Color** button (Mac OS 9) or open the Color panel (Mac OS X) to choose a display profile.

*Use profile for printing*
If this option is checked, the profile listed in the **Printer** text box will be used when printing images.  Note that CMYK profiles can not be used in Nikon Capture 4; if a CMYK profile is selected, the status of the **Use profile for printing** check-box can not be changed.  If **Use profile for printing** is not selected, images will be printed using the default RGB profile.

*Intent*
If you have chosen to use a printer profile, the type of matching to be performed can be selected from **Relative** and **Perceptual**.  (Depending on the profile, changing the matching method may produce no change in output.  This option is not supported with some profiles; consult the manufacturer for details.)

### Relative
Colors not in the gamut of the selected printer profile will be printed using the closest colors available.  Other colors are not affected.

### Perceptual
If the image contains colors not in the gamut of the selected printer profile, all colors in the image will be compressed to fit the gamut.

*Color Space Conversion*

Specify the settings on color space conversion in this section.

### Convert image(s) to sRGB color space

Check this option to convert the color space of image(s) to sRGB when you sent the image(s) by e-mail, upload to NikonNet, export as HTML file, save as JPEG file, or download to PDA devices. If the color space of the image(s) is already sRGB no conversion of the color space will be done. Set the color-space profiles for opening, saving, and converting image files.

**Multiple Displays (Macintosh)**

Nikon Capture 4 will identify and list the profiles for all monitors in an extended desktop display, allowing you to choose a separate profile for each monitor.

**The Color Management Tab**

Changes to settings in the Color Management tab also apply to Nikon Viewer, Nikon Capture 4 Editor, and Nikon Capture 4 Camera Control.

## The Publish to NikonNet or PDA Tab (Americas Only)

If **Don't show this dialog again** has been selected in the Module Selection, Nikon User Information, Upload Preview, or Choose Album dialogs during upload to NikonNet, you can click the **Clear** button in the Publish to NikonNet or PDA tab to display these dialogs again. This panel is displayed only in version of Nikon View 6 released to North, South, and Central America.

# Nikon Viewer

Nikon Viewer is used to view still pictures selected in Nikon Browser. Pictures can be zoomed in or out and scrolled, allowing you to take a closer look at specific parts of the image.

This chapter is divided into the following sections:

### The Nikon Viewer Window
This section outlines the controls and displays in the Nikon Viewer window, and describes how to start and exit Nikon Viewer.

### Using Nikon Viewer
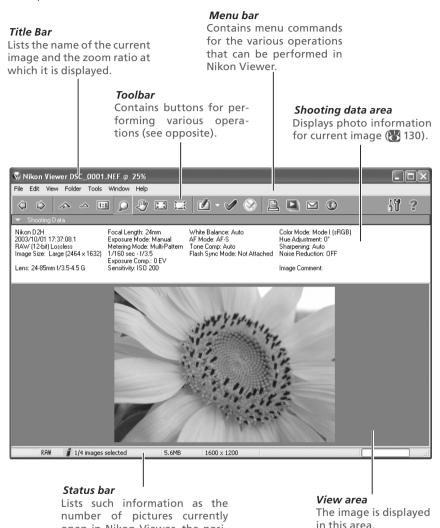This section details how Nikon Viewer can be used to view images.

### Nikon Viewer Preferences
Read this section for an overview of the Nikon Viewer Preferences dialog. Details can be found in "Nikon Browser: Preferences" (📷 103).

# The Nikon Viewer Window

*Getting to Know Nikon Viewer*

The main parts of the Nikon Viewer window are identified below.

**Menu bar**
Contains menu commands for the various operations that can be performed in Nikon Viewer.

**Title Bar**
Lists the name of the current image and the zoom ratio at which it is displayed.

**Toolbar**
Contains buttons for performing various operations (see opposite).

**Shooting data area**
Displays photo information for current image (🔖 130).

```
Nikon Viewer DSC_0001.NEF @ 25%                                    _ □ ✕

File  Edit  View  Folder  Tools  Window  Help

◁  ▷  △  △  [⊞]  🔍  🖑  ⊡  ▣  🖊 ▾  ✓  ⊘  🗋  ▶  ✉  ⊙        ⚙  ?

▼  Shooting Data

Nikon D2H              Focal Length: 24mm          White Balance: Auto        Color Mode: Mode I (sRGB)
2003/10/01 17:37:08.1  Exposure Mode: Manual       AF Mode: AF-S              Hue Adjustment: 0°
RAW (12-bit) Lossless  Metering Mode: Multi-Pattern Tone Comp: Auto           Sharpening: Auto
Image Size:  Large (2464 x 1632)  1/160 sec - f/3.5  Flash Sync Mode: Not Attached  Noise Reduction: OFF
                       Exposure Comp.: 0 EV
Lens: 24-85mm f/3.5-4.5 G  Sensitivity: ISO 200                               Image Comment:
```

**Status bar**
Lists such information as the number of pictures currently open in Nikon Viewer, the position of the current image among them, and the file size and attributes of the current image.

**View area**
The image is displayed in this area.

---

✏️ **Menu Commands and Tool Buttons**
Although many operations can be performed using both menu commands and the buttons in the toolbar, the explanations in this manual give priority to operations performed using tool buttons.

The names and functions of the buttons in the Nikon Viewer window are shown in the following table:
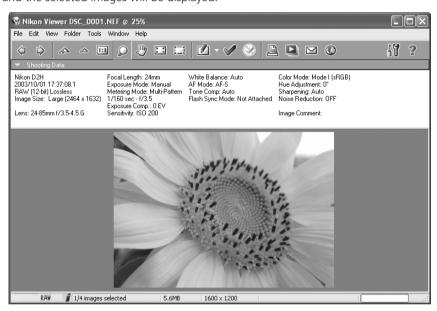
| Button | Name | Function | Shortcut* | 👁 |
|---|---|---|---|---|
| | **Previous Image Selected** | If the current image is not the first or only image currently opened in Nikon Viewer, clicking this button will display the previous image. | ← /— | 124 |
| | **Next Image Selected** | If the current image is not the last or only image currently opened in Nikon Viewer, clicking this button will display the next image. | →/— | 124 |
| | **Zoom In** | Zooms in on the current image. | Ctrl + +/ cmd + + | 125 |
| | **Zoom Out** | Zooms out from the current image. | Ctrl + −/ cmd + − | 125 |
| | **Display at the Original Size** | Displays the image at a zoom ratio of 1 : 1. | Ctrl + */ cmd + * | — |
| | **Zoom Tool** | The cursor takes the shape of a magnifying glass, allowing you to zoom the current image in or out using the mouse. | Ctrl + 9/ cmd + 9 | 126 |
| | **Hand Tool** | The cursor takes the shape of a hand, allowing you to scroll the current image using the mouse. | Ctrl + 0/ cmd + 0 | 127 |
| | **Fit Image to Window** | Adjust the zoom ratio of the current image to fit the Nikon Viewer window. | Ctrl + 5/ cmd + 5 | 125 |
| | **Fit Image to Desktop** | Adjust the zoom ratio of the current image to fit the desktop. | Ctrl + 7/ cmd + 7 | 125 |
| | **Edit** | Opens the current image in the designated image editing program. | Ctrl + E/ cmd + E | 127 |
| | **Add Tag Mark** | Tag the current image. | Ctrl + M/ cmd + M | 128 |
| | **Remove Tag Mark** | Remove the tag from the current image. | Ctrl+Shift+M/ shift+cmd+M | 128 |
| | **Print** | Prints the current image. | Ctrl + P/ cmd + P | 128 |
| | **Slideshow** | The images currently opened in Nikon Viewer are displayed in an automated slideshow. | — | 129 |
| | **E-mail** | Append the current image to an e-mail message. | — | 129 |
| | **Publish to NikonNet or PDA** | Upload all images in the current selection to the Web (residents of the USA only) or a Pocket PC or Palm hand-held device. This button is only available in the version of Nikon View released in the Americas. | — | 129 |
| | **Preferences** | Display Nikon View 6 preferences dialog. | Ctrl+K/ cmd+K | 134 |
| | **Help** | View help. | F1/ cmd + ? | — |

* Windows keyboard shortcuts are listed first, Macintosh shortcuts second.

## Starting Nikon Viewer

Nikon Viewer is started from Nikon Browser.

1 **Select images**
Select the still images you wish to view from the thumbnail list in Nikon Browser.

2 **Click** 📂
Click the 📂 (View) button or select **View** from the **File** menu.  Nikon Viewer will start and the selected images will be displayed.



### Other Ways of Starting Nikon Viewer

• Double-clicking selected thumbnails in Nikon Browser
• Selecting images in Nikon Browser and pressing the Enter (Windows) or return (Macintosh) key
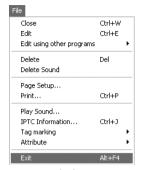
### Supported File Formats

Nikon Viewer can be used to view files created with supported cameras and images previously saved using Nikon View 6 Editor or Nikon Capture version 4 or earlier.  For information on the file formats supported, see "Opening Image Files" in "Nikon Capture 4 Editor: The Editor Window" (🐢 141).

### Dust Off Ref Photos

Dust Off reference photos (🐢 62) can not be displayed in Nikon Viewer.

## Exiting Nikon Viewer

To exit Nikon Viewer, open the **File** menu and select **Exit** (Windows) or **Quit** (Mac OS 9). In Mac OS X, select **Quit Nikon View 6** from the application menu.
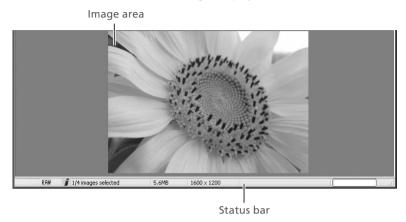


Windows



Mac OS 9



Mac OS X

# Using Nikon Viewer

*Taking a Closer Look*

To display a still image in the view area of Nikon Viewer, double-click the associated thumbnail (Nikon Viewer can not be used to view movies). Only one image can be displayed at a time. You can zoom in on and out from images displayed in the viewer.

Image area

Status bar

Nikon Viewer displays only one image at a time. The status bar shows the number of the images currently opened in Nikon Viewer and the status of the image displayed in the view area.

If more than one image is selected, the **Previous Image Selected** and **Next Image Selected** buttons can be used to display the other images. The order of display is the same as the order of display in the thumbnail list area of Nikon Browser.

**Previous Image Selected** button

**Next Image Selected** button

### ✐ Auto Image Rotation (D2H Only)

"Tall" (portrait-orientation) photographs taken with **On** (the default setting) selected for **Auto image rotation** in the camera setup menu will be displayed in portrait orientation. Photographs taken with the D2H in the horizontal shooting position or with **Off** selected for **Auto image rotation** will be displayed in "wide" (landscape) orientation.
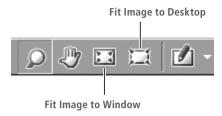
### ✐ Attribute Icons

The attribute icons in the status bar are identical to those displayed in Nikon Browser. See "Nikon Browser : Thumbnail Attributes" (🐰 52).

### ✐ When a Single Thumbnail Is Selected

In Windows, even if you open only one thumbnail in the thumbnail list area, you can browse through all the still images stored in the same folder as the selected image.

## Viewing the Entire Image

To fit the image to the Nikon Viewer window, click the **Fit Image to Window** button or select **Fit Image to Window** from **View** menu. To enlarge the Nikon Viewer window to fill the desktop and display the image full frame, click the **Fit Image to Desktop** button or select **Fit Image to Desktop** from **View** menu.

**Fit Image to Desktop**
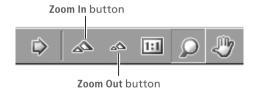
**Fit Image to Window**

## Zooming Images in and Out

Use the tools described below to zoom the image the image displayed in the view area in or out. The current zoom ratio is displayed in the title bar.

Zoom ratio

**The Zoom In/Zoom Out Buttons**

Click the **Zoom In** button to zoom in, the **Zoom Out** button to zoom out. You can perform the same operations by selecting **Zoom In** or **Zoom Out** from the **View** menu. Windows users with a suitable mouse can zoom images in or out by pressing the Alt key and rotating the mouse wheel.

**Zoom In** button

**Zoom Out** button

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### Zoom Tool Button

To select the zoom cursor, click the **Zoom Tool** button.  The mouse pointer will change to a magnifying glass with a "+" sign in its center.



Position the zoom cursor over the current image and click the mouse to zoom in one step.  To zoom out one step, hold down Alt (Windows) or option (Macintosh).  A "–" sign will appear in the center of the zoom cursor; click the mouse to zoom out one step.  The image will be centered on the point clicked.

🖉 **Double-Clicking the Hand and Zoom Tools**
Double-clicking the Zoom Tool displays the image at a zoom ratio of 1 : 1.  To fit the image to the window (Windows) or display the entire image (Macintosh), double-click the Hand Tool.

🖉 **The Hand and Zoom Tools**
The hand and zoom tools can not be used at the same time.

**Scrolling the Image**

If the entire image is not visible at the current zoom ratio, you can use the grab cursor to view other areas of the image.

Click the **Hand Tool** button in the toolbar, or select **Hand Tool** from the **View** menu. The mouse pointer will change to a hand. To scroll the image, drag the mouse in the direction you want to go. You can also scroll the image using the scroll bars below and to the right of the image area.



## Editing Image Files

You can open and edit the image displayed in the view area with the program specified in the Still Image (🔱 108) and Movie tabs (🔱 109) of the Preferences dialog. To open the image in the specified program, click the **Edit** button in the toolbar. If Nikon Capture 4 Editor is selected as the editor for still images, Nikon Capture 4 Editor will start (🔱 135).
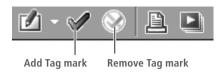


**Edit** button

If you register a program using the "Add/Remove editing program" dialog, you can also edit the image with a program other than the one specified in the Preferences dialog. To display the "Add/Remove editing program" dialog, click the drop-down arrow next to the **Edit** tool button and select **Add/Remove editing program…** from the menu that appears.

For more information on the "Add/Remove editing program" dialog, see "The Add/Remove Editing Program Dialog" (🔱 69).
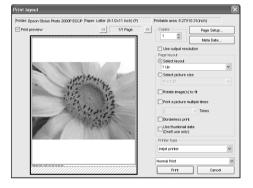
## Tagging Images

To tag the current image, click the **Add Tag Mark** button in the toolbar. A tagged image attribute icon will appear in the status bar. Tags can be removed by clicking the **Remove Tag Mark** button.

**Add Tag mark**      **Remove Tag mark**

See "Tagging Images" ( 53) for more information.

## Printing Images

You can print the image currently displayed in the view area. Use the Print Layout dialog to print the image. To display the Print Layout dialog, click the **Print** button in the toolbar, or select **Print** from the **File** menu. For more information on printing, see "Printing Images" ( 71).
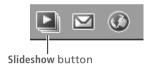
---

✏️ **Printing with Color Management**

The printer profile used when printing from Nikon Browser or Nikon Viewer can be selected from the Color Management tab of the Preferences dialog in Nikon Browser ( 112, 114), Nikon Viewer, Nikon Capture 4 Editor ( 211, 213), or Nikon Capture 4 Camera Control.

## Viewing a Slideshow

You can view the images opened in the view area as a slideshow. To view a slideshow, click the **Slideshow** button in the toolbar, or select **Slideshow** from the **Tools** menu.



**Slideshow** button

For more information on playing back a slideshow, see "Slideshows" (📷 82) in "Nikon Browser."

## Sending Messages by E-Mail

Images displayed in the Image Area can be sent by e-mail. To send images, click the **E-mail** button in the tool bar or select **E-mail** from the **Tools** menu.



**E-mail** button

For more information on sending images by e-mail, see "Sending Messages by E-Mail" (📷 86) in "Nikon Browser."

## Uploading Images (Amercias Only)

You can upload the image displayed in the view area to the on-line album at the Nikon Net site (American residents only). To upload the image, click the **Publish to Nikon Net or PDA** button in the toolbar or select **Publish to Nikon Net or PDA** from the **Tools** menu. This option is only available in the version of Nikon View released in the Americas.



**Publish to Nikon Net or PDA** button
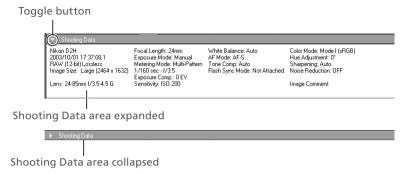
For more information on publishing to the Web, see "Uploading Images" (📷 89) in "Nikon Browser."

🖊 **If a Single Image Is Open**
In Windows, if the currently displayed image is the only image opened, all the image files in the same folder as the one displayed are played back as a slideshow.

## Displaying Shooting Data

Shooting data (photo information) for the current image are displayed in the shooting data area. You can expand or collapse the shooting data are by selecting **View Shooting Data** from the **View** menu. You can also expand or collapse the shooting data area by clicking the toggle button (a small triangle) in the upper left corner.

Toggle button



Shooting Data area expanded



Shooting Data area collapsed

For more information on the shooting data, see "Displaying Shooting Data" (🔖 55) in "Nikon Browser."
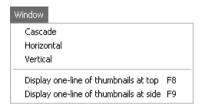
## Viewing File Information

To display the file information for the image displayed in the view area, select **IPTC Information** from the **File** menu. The IPTC Information dialog will be displayed. For more information, see "Viewing File Information" (🔖 58) in "Nikon Browser."

### Opening the Current Folder in Nikon Browser

To open the folder containing the current image in Nikon Browser, select **Open with Browser** in the **Folder** menu.

## Window Menu Options in Nikon Browser and Nikon Viewer

The options in the **Window** menu can be used to organize the display in Nikon Browser and Nikon Viewer.

```
Window
    Cascade
    Horizontal
    Vertical

    Display one-line of thumbnails at top    F8
    Display one-line of thumbnails at side   F9
```

*Cascade*
Arrange Nikon Browser and Nikon Viewer in overlapping windows.

*Horizontal*
Arrange Nikon Browser and Nikon Viewer one above the other in non-overlapping windows.

*Vertical*
Arrange Nikon Browser and Nikon Viewer side-by-side in non-overlapping windows.

### *Display one-line of thumbnails at top*
The Nikon Browser window is adjusted to display a single horizontal line of thumbnails above the Nikon Viewer window.

### *Display one-line of thumbnails at side*
The Nikon Browser window is adjusted to display a single vertical line of thumbnails to the left of the Nikon Viewer window.



One line of thumbnails at top          One line of thumbnails at side

When both Nikon Browser and Nikon Viewer are open, clicking a thumbnail once in Nikon Browser will display the selected image in Nikon Viewer.

---

**Viewing the Nikon Browser Toolbar and Navigation Area**
When **Display one-line of thumbnails at top** or **Display one-line of thumbnails at side** is selected, the selected item is checked and the toolbar and navigation area are hidden. To view the toolbar and navigation area, select the checked option to cancel the thumbnail-only display.

## Deleting Image Files

To delete the image file displayed in the view area, select **Delete** from the **File** menu or press the Delete key.

| File | |
|---|---|
| New Folder | Ctrl+N |
| View... | |
| Edit | Ctrl+E |
| Edit using other programs | ▶ |
| Rename a file or a folder | F2 |
| Move... | |
| Copy... | |
| Delete | Del |
| Delete Sound | |
| Page Setup... | |
| Print... | Ctrl+P |
| Play Sound... | |
| IPTC Information... | Ctrl+J |
| Tag marking | ▶ |
| Attribute | ▶ |
| Exit | Alt+F4 |

The deleted image file will be moved to the Recycle Bin (Windows) or the Trash (Macintosh), and the next image in the Nikon Browser thumbnail list area will be displayed in Nikon Viewer.  If the deleted image was the last image and there are no following files, nothing will be displayed in the view area.

☑ **Deleted Image Files**

Deleted image files are moved to the Recycle Bin (Windows) or the Trash (Macintosh).  To cancel the deletion, open the Recycle Bin or the Trash and return the deleted files back to their original location. In Windows, if you delete image files from the memory card inserted in the camera, card slot, or card reader, or from a network folder, the image files are permanently erased and cannot be recovered.

*133*

# Nikon Viewer Preferences

*Fine-Tuning Nikon Viewer*

To display the Nikon Viewer "Preferences" dialog , select **Preferences** from the **Edit** menu (Windows/Mac OS 9) or the application menu (Mac OS X). You can also display the Preferences dialog box by clicking the **Preferences** tool button.  For more information, see "Nikon Browser Preferences" (😈 103) .
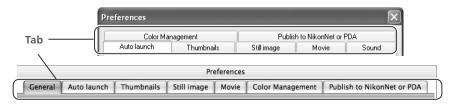
Windows/Mac OS 9                    Mac OS X

The Preferences dialog contains the following tabs:

| Tab | Description | 😈 |
|---|---|---|
| General (Macintosh only) | Choose the volume used for temporary storage. | 104 |
| Auto Launch | Choose whether Nikon Transfer starts automatically when a memory card from a supported camera is detected. | 105 |
| Thumbnails | Choose whether to create thumbnails from the original image data. | 106 |
| Still image | Choose the applications that will be used to play back or edit still images. | 108 |
| Movie | Choose the applications that will be used to play back or edit movies. | 109 |
| Sound (Windows only) | Choose the application that will be used to play back voice memos. | 111 |
| Color Management | Select the color profiles used by the Nikon Color Management System (CMS). | 112, 114 |
| Publish to NikonNet or PDA (Americas only) | Options for uploading images. | 117 |

After making changes to preferences, click **OK** to save changes and return to the Nikon Viewer window.  Click **Cancel** to cancel any changes to settings and return to the Nikon Viewer window.

✍ **Viewing Preferences**
To view settings in any of the panels, click the appropriate tab.

Tab

# Nikon Capture 4 Editor

*Image Adjustment*

The Nikon Capture 4 editor component contains a variety of tools for enhancing images, including brightness, contrast, color balance, unsharp mask adjustment, Digital DEE, and fisheye lens settings. With RAW (NEF) images, it can be used to adjust white balance and tone compensation, to reduce the effects of dust on the camera image sensor (Image Dust Off), and to correct for the slight darkening at the margins of an image (vignetting) particular to the field of view of a given lens. When RAW images are saved in NEF format, image enhancement settings are saved separately from the original image data, allowing you to modify settings repeatedly without degrading the quality of the original image. Nikon Capture 4 Editor is also equipped with a batch option for automated processing of multiple images.

This chapter details the operations that can be performed using Nikon Capture 4 Editor. It is divided into the following sections:

*The Editor Window*
Read this section for an overview of the controls in the Nikon Capture 4 Editor window.

*Image Adjustment*
Read this section for instructions on enhancing images using Nikon Capture 4 Editor.
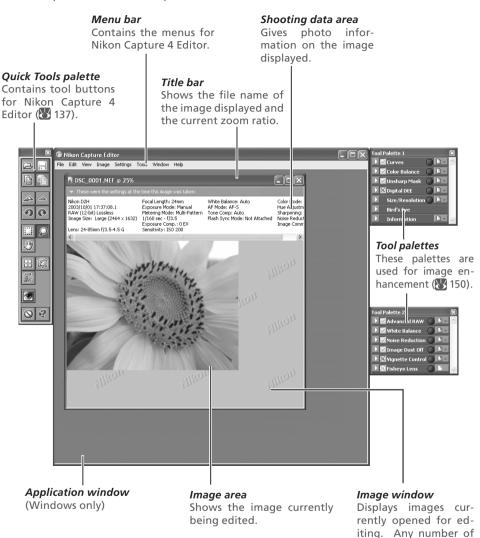
*Nikon Capture 4 Editor Preferences*
Read this section for information on fine-tuning settings in the Nikon Capture 4 Editor window.

# The Editor Window

*Getting to Know Nikon Capture 4 Editor*

The main parts of the Nikon Capture 4 Editor window are identified below.

**Menu bar**
Contains the menus for Nikon Capture 4 Editor.

**Shooting data area**
Gives photo information on the image displayed.

**Quick Tools palette**
Contains tool buttons for Nikon Capture 4 Editor (👹 137).

**Title bar**
Shows the file name of the image displayed and the current zoom ratio.

**Tool palettes**
These palettes are used for image enhancement (👹 150).

**Application window**
(Windows only)

**Image area**
Shows the image currently being edited.

**Image window**
Displays images currently opened for editing. Any number of image windows can be open simultaneously.

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🖊 **The Menu Bar and Quick Tools**
Although many operations can be performed using both menu commands and the buttons in the Quick Tools palette, the explanations in this manual give priority to operations performed using tool buttons.

🔍 **Hiding the Tool Palettes and Quick Tools Palette**
Press tab to hide or display the tools and Quick Tools palettes.

## Quick Tools

The Quick Tools palette contains buttons that replicate commonly-used menu commands.

| Button | Name | Function | Shortcut* | 👅 |
|---|---|---|---|---|
| | **Open** | Click to open an image file for editing. | Ctrl + 0/<br>cmd + 0 | 141 |
| | **Save** | Save changes to the image in the active image window. | Ctrl + S/<br>cmd + S | 196 |
| | **Copy Image Adjustments** | Copy current image-adjustment settings to the clipboard. | — | 195 |
| | **Paste** | Paste the contents of the clipboard to image enhancement settings in the active window. | Ctrl + V/<br>cmd + V | — |
| | **Zoom In** | Zoom in on the image in the active window. See "Using Nikon Viewer." | Ctrl + +/<br>cmd + + | 125 |
| | **Zoom Out** | Zoom out from the image in the active window. See "Using Nikon Viewer." | Ctrl + −/<br>cmd + − | 125 |
| | **90 degrees CCW** | Rotate the image in active window ninety degrees counter-clockwise. | Ctrl+Shift+R/<br>shift+cmd+R | 145 |
| | **90 degrees CW** | Rotate the image in active window ninety degrees clockwise. | Ctrl + R/<br>cmd + R | 145 |
| | **Crop Cursor** | Use this tool to select the portion of the image in the active window that will be saved. | C/C | 149 |
| | **Zoom Cursor** | Use to zoom the image in the active window in and out. See "Using Nikon Viewer." | Z/Z | 126 |
| | **Hand Cursor** | Use to view portions of the image not currently visible in the active window. See "Using Nikon Viewer." | H/H | 127 |
| | **Show Nikon Browser** | Launch Nikon Browser. | — | 35 |
| | **Show Nikon Capture Camera Control** | Launch Nikon Capture 4 Camera Control. | — | 215 |
| | **Batch** | Open the Batch dialog, where you can select a folder of images for batch processing. | — | 201 |
| | **Open with Photoshop** | Open the image in the active window in Photoshop. | — | — |
| | **Show Original Image Data** | Hide the effects of changes to image adjustment settings. | — | — |
| | **Help** (Windows only) | When this button is clicked, a question mark appears next to the mouse pointer. Clicking on a window, menu, or button while the question mark is displayed will open the help file to the section that displays the function of the item clicked. | —/ | — |

\* Windows keyboard shortcuts are listed first, Macintosh shortcuts second.

**Show Original Image Data**

If the image in the active window is a RAW picture taken with a COOLPIX-series camera, the **Show Original Image Data** button can not be used.
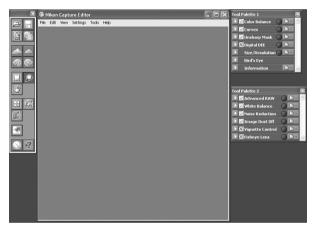
## Starting Nikon Capture 4 Editor

Nikon Capture 4 Editor can be started by selecting **Edit** from the **File** menu when thumbnails are selected Nikon Browser or an image is open in Nikon Viewer. You can also start the Editor directly by selecting Nikon Capture 4 Editor from the **Start** menu (Windows) or double-clicking the application icon (Macintosh).

### Windows

1 Turn the computer on
Turn the computer on and wait for the operating system to start up.

2 Start Nikon Capture 4 Editor
From the **Start** menu, select **All Programs**> **Nikon Capture 4**> **Nikon Capture 4 Editor** (Windows XP Home Edition/Windows XP Professional) or **Programs**> **Nikon Capture 4**> **Nikon Capture 4 Editor** (other Windows versions).




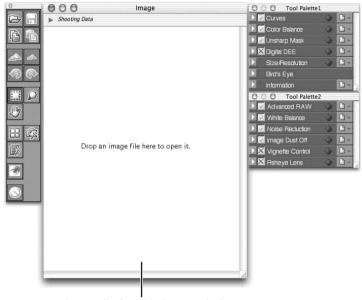
---

✏ **Starting Image Window**

In the Macintosh version of Nikon Capture 4, an empty image window is displayed when Nikon Capture 4 Editor is started by double-clicking the application icon. In the Windows version, the application window is displayed.

**Macintosh**

**1** Turn the computer on
Turn the computer on and wait for the operating system to start up.

**2** Start Nikon Capture 4 Editor
Double-click the Nikon Capture 4 Editor icon (⊖) in the folder to which you installed Nikon Capture 4.



No image displayed in image window

✎ **Product Key**
If prompted to supply a product key when starting Nikon Capture 4 Editor or Nikon Capture 4 Camera Control, enter the product key for Nikon Capture 4.

✎ **Other Ways of Starting the Editor**
Nikon Capture 4 Editor can be started by double-clicking the Nikon Capture 4 icon (⊙) in the folder to which you installed Nikon Capture 4 (Windows, Mac OS 9). If Nikon Capture 4 was registered in the Dock during installation, Mac OS X users will be able to start Nikon Capture 4 Editor by clicking the Nikon Capture 4 icon (⊙) in the Dock.

## Exiting Nikon Capture 4 Editor

To close the Nikon Capture 4 Editor window and exit Nikon Capture 4, open the **File** menu and choose **Exit** (Windows) or **Quit** (Mac OS 9). In Mac OS X, select **Quit Nikon Capture Editor** from the application menu.

| File | |
|---|---|
| Open… | Ctrl+O |
| Close | |
| Save | Ctrl+S |
| Save As… | Ctrl+Shift+S |
| Create Copy | |
| IPTC Information… | |
| Print Setup… | |
| Print… | Ctrl+P |
| 1 DSC_0001.NEF | |
| 2 DSC_0002.NEF | |
| 3 DSC_0003.NEF | |
| 4 DSC_0004.NEF | |
| Exit | |

Windows

| File | |
|---|---|
| Open… | ⌘O |
| Close | ⌘W |
| Save | ⌘S |
| Save As… | ⇧⌘S |
| Create Copy | |
| IPTC Information… | |
| Page Setup… | |
| Print… | ⌘P |
| Quit | ⌘Q |

Mac OS 9

| Nikon Capture Editor | |
|---|---|
| About Nikon Capture Editor… | |
| Preferences… | ⌘K |
| Services | ▶ |
| Hide Nikon Capture Editor | ⌘H |
| Hide Others | ⌥⌘H |
| Show All | |
| Quit Nikon Capture Editor | ⌘Q |

Mac OS X

## Opening Image Files

Nikon Capture 4 Editor can be used to open images created with supported cameras and images previously saved using Nikon Capture or Nikon View.

| Original image/saved image | Format | Extension |
|---|---|---|
| Uncompressed NEF (RAW) | NEF<br>(Nikon Electronic Image Format) | .NEF |
| Compressed NEF (RAW) | | |
| Image saved in NEF | | |
| RGB-TIFF | TIFF (RGB) | .TIF |
| YCbCr TIFF | | |
| 16-bit TIFF (RGB) | | |
| 8-bit TIFF (RGB) | | |
| FINE | JPEG | .JPG |
| NORMAL | | |
| BASIC | | |
| JPEG | | |

Files in the above formats can be opened using the **Open…** command or by drag and drop.

**Using the "Open..." Command**

1 Click the 📂 button or select **Open…** from the **File** menu
The standard Open dialog for your operating system will be displayed.

**Open** button ———



Preview of selected image displayed

✔ **TIFF (CMYK) Images**
Images saved in TIFF (CMYK) format can not be reopened in Nikon Capture 4 Editor.

🖉 **NEF Files (Nikon Capture 3 or Earlier)**
NEF files created with Nikon Capture 4 can not be opened in earlier versions of Nikon Capture.

🖉 **RAW Images Created with the D1x**
The default size for RAW images created with the D1x when opened in Nikon Capture 4 Editor can be chosen using the **By default, a D1X RAW file will be** option in the General tab of the Nikon Capture 4 Editor Preferences dialog (🕙 207). Choose from six megapixels (3,008 × 1,960 pixels) and ten mega-pixels (4,016 × 2,616).

2 Locate the image file
  Navigate to the drive (volume) and folder containing the file you wish to open.

3 Click **Open**
  Double-click the file or select it from the files listed and click **Open**.  The selected file will be opened in an image window in Nikon Capture 4 Editor.

**Opening Images from Nikon Browser or Nikon Viewer**
With one or more still images selected in Nikon Browser or an image open in Nikon Viewer, click the **Edit** button in the Quick Tools palette or select **Edit** from the **File** menu.



**Edit** button
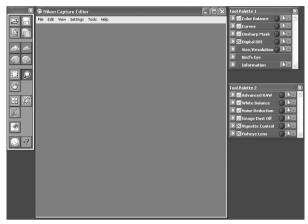


Selected images are opened in image windows

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✏️ **Photo Editing Program**
Following installation of Nikon Capture 4, the default photo editing program for Nikon Browser is Nikon Capture 4 Editor.  If you have changed the photo editing program, return to the Nikon Browser Preferences dialog and select Nikon Capture 4 Editor.
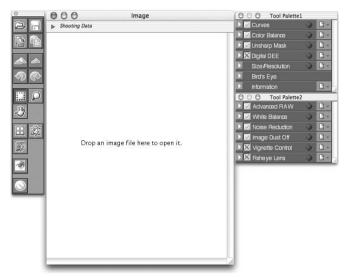
**Using Drag and Drop**

Images can also be opened by dragging them into the application window (Windows) or image window (Macintosh).
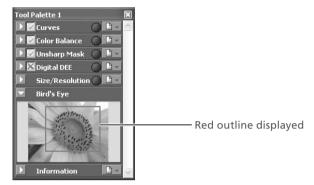


Windows



Macintosh

## The Bird's Eye Palette

The Bird's Eye palette shows the position of the portion of the image visible in the active image window. To display or hide the Bird's Eye palette, click the triangle in the Bird's Eye palette title bar (👹 150). By default, the Bird's Eye palette is in Tool Palette 1.

The portion of the image visible in the active image window is indicated by a red outline.



Red outline displayed

When the mouse pointer is moved over the red outline, it changes to a (🖑) cursor. Drag the red outline over the area of the image you would like to view. The selected area will be displayed in the active image window.



### 🔍 Changing the Size of the Bird's Eye Palette
The size of the Bird's Eye palette can be adjusted by dragging the borders of the tool palette (Windows) or by dragging the handle at its lower right corner (Macintosh).

## Rotating and Flipping Images

The image in the active image window can be rotated or flipped as described below.

### Rotating Images

Click the ![icon] button or select **90 degrees CW** from the **Rotate** sub-menu to rotate the image in the active window 90 degrees to the right. Click the ![icon] button or select **90 degrees CCW** from the **Rotate** sub-menu to rotate the image in the active window 90 degrees to the left. To rotate the image 180 degrees, select **180 degrees** from the **Rotate** sub-menu.



**90 degrees CCW** button — **90 degrees CW** button



Image before rotation



Image rotated ninety degrees clockwise

### Flipping Images

Use the commands in the **Flip** sub-menu to flip the image in the active window horizontally or vertically.

🖉 **Rotating JPEG Images**

Image files must be opened in Nikon Capture 4 Editor before being rotated. To save the changes, the image must then be saved to disk. If the image is in JPEG format, it will be compressed when saved, with a corresponding drop in image quality. Nikon Browser, in contrast, rotates and flips JPEG images without decompressing them first, and no drop in image quality results. We recommend that you flip or rotate JPEG images in Nikon Browser before opening them in Nikon Capture 4 Editor.

## The Information Palette

The information palette shows the position and color of the pixel under the mouse pointer. To display or hide the Information palette, click the triangle in the Information palette title bar (👋 150). By default, the Information palette is in Tool Palette 1.
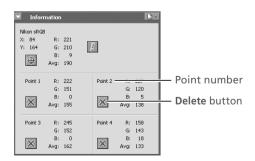
Color space ——— Nikon sRGB
x-y coordinates ———
Watch Point button ———

Red, Green, Blue, Average

| Information | Description |
|---|---|
| Color space | The working color space for the image in the active image window is displayed at the top of the information palette. This information is embedded in the file when the image is saved. |
| R, G, B, Avg | The values for each of the red, green, and blue elements of the pixel under the cursor and the average of the three, weighted according to the properties of human color perception (the weighted average is calculated as (Red×0.299) + (Green×0.587) + (Blue×0.114)). Depending on the selected color space, the average may not reflect the actual luminance of the pixel under the cursor, but it can be used as a rough guide to brightness. Values for R, G, B, and the average of the three range from 0 to 255, with values for twelve-bit images being scaled to fit in this range. The number on the left is the input value, or value for the color in the original image. The value in the right is the output value, or value after any changes in the Curves or Color Adjustment windows have been applied. |
| x-y coordinates | The position of the cursor in the image window, measured in pixels from the top left corner of the image. |

### Monitoring Watch Points
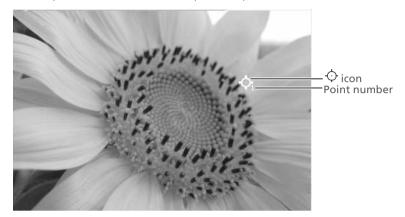
The Information palette can be used to continually monitor the red, green, blue, and average values (R, G, B, Avg) for up to four selected pixels. The "before" (input) and "after" (output) values for each of these pixels will be displayed in the Information palette, allowing you to determine the effects of any changes to settings.

*Selecting Watch Points*

To select a pixel to monitor, click the ⊕ button. The cursor will change to 🖉. Move the mouse over the desired pixel and click. The selected pixel will be added to the list of watch points in the Information palette.

Point number

Delete button

The pixels currently being monitored in the Information palette are shown by a ⊕ icon in the image window. Each point is identified by a number corresponding to the point number listed in the Information palette. You can monitor up to four pixels at a time.



⊕ icon
Point number

*Moving a Watch Point*
To move the watch point to a new pixel, drag the ⊕ icon in the image window.

*Deleting a Watch Point*
To remove a pixel from the list of watch points, click the ⊠ button next to the corresponding listing in the Information palette, or drag the ⊕ icon out of the image window. The remaining points will be renumbered to reflect the change.

🖉 **RGB and Average Values**
A warning button will be displayed in the information palette at zoom ratios of less than 100%. Clicking this button will display a dialog stating that accurate RGB and average values can not obtained at the current zoom ratio; click **Yes** to view the image full size.

🔍 **Preferences: Advanced Color**
Clicking the icon at the right end of the Information palette tool bar displays a menu from which you can access the Advanced Color tab of the Preferences dialog (👹 210).
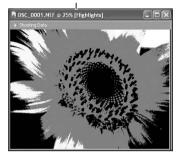
## Lost Highlights and Shadows

Areas of the image in which details in the high end or low ends of the tone range may have been lost ("lost" highlights or shadows) can be identified by locating pixels with the maximum or minimum value for one or more channel. This information can be used when using color balance (📖 178) or adjusting the white point or black point to capture the optimal amount of detail without sacrificing contrast (📖 171).

### *Show Lost Highlights*

When **Show Lost Highlights** is selected in the **Image** menu, "lost" highlights (pixels with a value of 255 for one or more channel) are shown in color (see table below). Other pixels are shown in black.

"Highlights" displayed in image window title bar



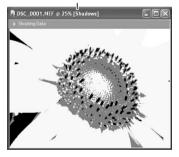| R | G | B | Shown in |
|---|---|---|---|
| "Lost" | "Lost" | "Lost" | White |
| "Lost" | "Lost" | Not "lost" | Yellow |
| "Lost" | Not "lost" | "Lost" | Magenta |
| Not "lost" | "Lost" | "Lost" | Cyan |
| "Lost" | Not "lost" | Not "lost" | Red |
| Not "lost" | "Lost" | Not "lost" | Green |
| Not "lost" | Not "lost" | "Lost" | Blue |

### *Show Lost Shadows*

When **Show Lost Shadows** is selected in the **Image** menu, "lost" shadows (pixels with a value of 0 for one or more channel) are shown in color (see table below). Other pixels are shown in white.

"Shadows" displayed in image window title bar



| R | G | B | Shown in |
|---|---|---|---|
| "Lost" | "Lost" | "Lost" | Black |
| "Lost" | "Lost" | Not "lost" | Blue |
| "Lost" | Not "lost" | "Lost" | Green |
| Not "lost" | "Lost" | "Lost" | Red |
| "Lost" | Not "lost" | Not "lost" | Cyan |
| Not "lost" | "Lost" | Not "lost" | Magenta |
| Not "lost" | Not "lost" | "Lost" | Yellow |

🖉 **"Lost" Highlights and Shadows**

Before saving images in a format other than NEF, adjust settings to avoid "losing" highlights or shadows in large areas of the image. Information lost through editing can not be recovered once an image is saved in a format other than NEF.

🔍 **Keyboard Shortcuts**

Press L to view or hide lost highlights, S to view or hide lost shadows.
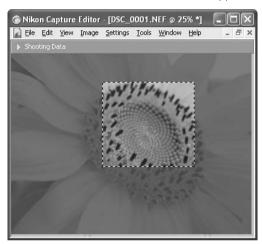
## Selecting a Crop

Using the crop tool, you can select a portion of an image to be saved in a separate file. If no selection is made, the entire image will be saved.

**1** Click the ⬚ button or select **Crop Cursor** from the **View** menu
When the mouse is moved over the image area in the active window, it will change to (✛).

**2** Make a selection
Drag the mouse over the image in the active window to make a selection. The area outside the selection will be masked to show that it will be cropped.



**Cancelling the Current Crop**
To cancel the current crop, double-click anywhere in the image window. The selection may not be cancelled if **Keep the output size** is selected in the Size/Resolution palette (📖 192).

**Moving the Crop**
To move the crop over a different part of the image, move the pointer over the crop. The pointer will change to a 🖑 (Windows) or 🖑 cursor (Macintosh). Drag the crop to move it to a new position.

**Changing the Size of the Crop**
To change the size of the current crop, move the pointer over the borders of the crop. The pointer will change to a double arrow. Drag the borders of the crop to adjust its size. The size of the cropped image can be adjusted in the Size/Resolution palette (📖 192).

---

**⚙ Saving a Selection**
Unless the image is saved in NEF format, only the selected portion of the image will be saved. Anything not included in the current crop will be deleted. In NEF format, the entire image is saved together with information about the location of the current crop.
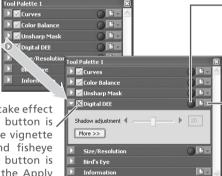
# Image Adjustment

*Enhancing Images*

Before they will be ready for display or output on a monitor or printer, images captured from the camera will usually need to be adjusted to a size and resolution appropriate to the task at hand. Other settings, such as white balance, contrast, sharpness, Image Dust Off, Digital DEE, and fisheye lens settings, may also require adjustment. These adjustments are performed using the image adjustment tool palettes.

**Using the Tool Palettes**

To display the default tool palettes, select **Show Tool Palette 1** or **Show Tool Palette 2** from the **View** menu.

*Displaying the Contents of a Tool Palette*

To display or hide the contents of a tool palette, click the triangle to the left of the palette title.



***Edit Indicator***
This indicator turns green if palette settings have been modified for the image in the active window.
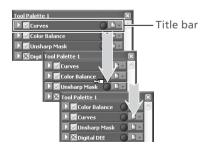
***Apply Button***
Changes to settings only take effect when the palette Apply button is checked ☑ (except in the vignette control, Digital DEE, and fisheye lens palettes, the Apply button is checked by default). If the Apply button is crossed out ☒, the effects of the settings in the palette will not be visible in the image window.

***Settings Menu Button***
Click this button to display the settings sub-menu, where palette settings can be saved, loaded, or reset.

*Changing Palette Order*

To change the order of palettes in the tool palette window, click a tool palette title bar and drag it into a new position.



Title bar

---

📝 **The Size/Resolution Palette**

The Size/Resolution palette does not have an Apply button. Changes to settings in the Size/Resolution palette are always visible in the active window.
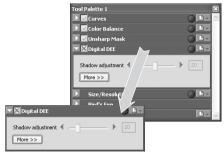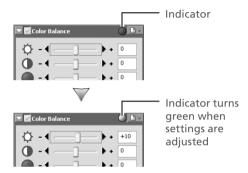
*Opening Tool Palettes in Separate Windows*

Tool palettes can be opened in a separate window by clicking the palette title and dragging it outside the current window to create a new tool palette window containing only the selected palette.

Tools can be added to the new window by dragging in additional palettes. The new window will be added to the **View** menu in Nikon Capture 4 Editor. If you close the new window by clicking the window close box, you can open it again by selecting the desired palette from the **View** menu.

*The Edit Indicator*

The edit indicator turns green if palette settings have been adjusted since the image in the active window was created (NEF) images or last saved (other images), making it clear at a glance which palettes have been used.

- NEF images:

  Changes to settings made in Nikon Capture 4 Editor are not applied directly to the image data when a photograph is saved in NEF format. Instead, the original image is saved unchanged with the changed settings stored separately in the same file. These settings are loaded when the image is opened, with the result that all indicators that were green when the image was saved will be green when the image is next opened.

- Other images:

  Changes to settings are applied directly to the image when the image is saved. The edit indicators only reflect changes made since the image was last saved.

---

🔎 **Resetting the Tool Palettes**

To restore the tool palettes to their default positions, select **Reset Tool Positions** in the **View** menu.

The settings that can be adjusted depend on the image quality setting in effect when the photograph was recorded. Photographs taken at an image-quality setting of RAW can be processed to adjust white balance, reduce the effects of dust, perform vignette control, or to alter exposure compensation, image sharpening, tone compensation, color mode, and hue adjustment from the settings in effect at the time the photograph was taken. All images can be processed to adjust tone curves, color balance, sharpness, noise, Digital DEE, and size and resolution. Images taken with an AF DX 10.5 mm f2.8G fisheye Nikkor lens can also be processed to reduce distortion.
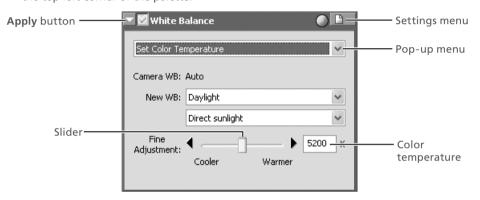
| Image quality | Process | Palette | 👁 |
|---|---|---|---|
| RAW | Adjust white balance. | White Balance | 153 |
| | Choose new settings for exposure compensation, image sharpening, tone compensation, color mode, and hue adjustment. | Advanced RAW | 159 |
| | Reduce effects of dust on the low-pass filter protecting the camera CCD | Image Dust Off | 162 |
| | Compensate for drop in marginal lumination caused by characteristics of camera lens. | Vignette Control | 166 |
| RAW RGB-TIFF YCbCr-TIFF FINE NORMAL BASIC | Adjust tone, color balance, and contrast. There are two distinct tools for this task: the Curves palette, which provides | Curves | 168 |
| | precise control over tone, and the Color Balance palette, which features simpler controls. | Color Balance | 178 |
| | If the image lacks definition, you can sharpen outlines using the controls in the Unsharp Mask palette. Unsharp mask only be applied at the last step, after all other adjustments have been made. | Unsharp Mask | 181 |
| | Reduce the noise common to pictures taken with digital cameras. Nikon Capture supports color noise reduction and edge noise reduction. | Noise Reduction | 184 |
| | Increase detail in shadows or highlights. | Digital DEE | 186 |
| | Process pictures taken with an AF DX 10.5mm f2.8G fisheye Nikkor lens to reduce distortion at the edges of the frame, making them look like images taken with a wide-angle lens. | Fisheye Lens | 190 |
| | Adjust the size and resolution of the image for output on a particular device. | Size/Resolution | 192 |

## White Balance

The tools in the White Balance palette are used to adjust white balance for RAW images. Using these tools, not only can you correct white balance when the setting chosen with the camera failed to produce the desired effect, you can also deliberately alter white balance to introduce a cold or warm cast into the image. Users of the D2H can copy white-balance settings to the camera or memory card (⚠ 156). White balance can be adjusted by specifying the desired color temperature or by sampling the image for the gray point.

### Specifying a Color Temperature

1 Display the White Balance palette
Select the tool palette containing the White Balance palette from the **View** menu (the default location for the White Balance palette is Tool Palette 2) and click the triangle at the top left corner of the palette.

Apply button ——— ┆ **White Balance** ⚪ 🗋 ——— Settings menu

Set Color Temperature ▾ ——— Pop-up menu

Camera WB: Auto

New WB: Daylight ▾

Direct sunlight ▾

Slider ——— Fine Adjustment: ◄ ▬▬█▬▬ ► | 5200 | K ——— Color temperature

Cooler        Warmer

2 If the Apply button is off (☒) , turn it on (☑)
If the **Apply** button is off, the image in the active image window will reflect the white balance settings in effect at the time the photograph is taken.

3 Select **Set Color Temperature**
Select **Set Color Temperature** from the pop-up menu at the top of the palette.

📖 **White Balance**

White balance can be performed on RAW images only. If the image in the active window is JPEG or TIFF, the Apply button in the White Balance palette will be grayed out and inactive.

🔍 **"Mired"**

Any given change in color temperature produces a greater difference in color at low color temperatures than it would at higher color temperatures. For example, at a color temperature of 6000 K, a change of 100 K produces almost no change in color, while a change of the same amount at 3000 K would produce a large difference in color. Mired, calculated by multiplying the inverse of the color temperature by $10^6$, is a measure of color temperature that takes such variation into account, and as such is the unit used in color-temperature compensation filters.

| Change in Color Temp. | Mired |
|---|---|
| 4000 K − 3000 K = 1000 K | 83 mired |
| 7000 K − 6000 K = 1000 K | 24 mired |

4 Adjust white balance using the options in the White Balance palette

Camera WB

Shows the white balance setting in effect at the time the photograph was taken and the amount of fine-tuning performed.

New WB

The white balance setting to be applied to the captured image can be chosen from the options listed in the table below. When **Daylight**, **Standard Fluorescent**, or **High Color Rendering Fluorescent** is selected, white balance can be fine-tuned by selecting an option from the sub-menu.

| Option | Sub-menu option | Color temperature | Description |
|---|---|---|---|
| **Use Gray Point** | — | — | White balance is set to the value chosen in the gray-point selection dialog (🔲 155). |
| **Recorded Value** | — | — | White balance is set to the value recorded when the picture was taken. |
| **Calculate Automatically** | — | — | White balance is adjusted automatically based on the white balance of the original image. |
| **Incandescent** | — | 3,000 K | Suited to photos taken under incandescent lighting. |
| **Daylight** | **Direct sunlight** | 5,200 K | Suited to photos taken in direct sunlight. |
| | **Cloudy** | 6,000 K | Suited to photos taken under overcast skies. |
| | **Shade** | 8,000 K | Suited to photos taken in the shade on sunny days. |
| **Standard Fluorescent** **High Color Rendering Fluorescent** | **Warm White** | 3,000 K | Suited to fluorescent lighting, including lighting with a noticeable color cast. The type of bulb can be chosen from a sub-menu of five options. |
| | **3700K** | 3,700 K | |
| | **Cool White (4100K)** | 4,100 K | |
| | **5000K** | 5,000 K | |
| | **Daylight (6500K)** | 6,500 K | |
| **Flash** | — | 5,400 K | Suited to photos taken with Nikon Speedlights. |

Fine Adjustment

Color temperature can be fine-tuned using this slider. This option is not available when **Use Gray Point** or **Recorded Value** is selected for **New WB**. Color temperature can be adjusted by ±50 mired. Note that color temperature can not be raised above 9066 K, and that a setting of **Flash** can be fine-tuned in the range of 4277 K–7479 K.
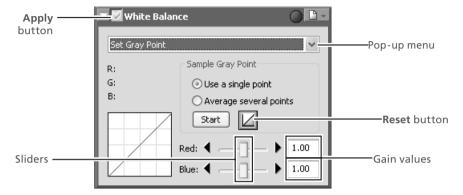
✐ **"Calculate Automatically"**

The **Calculate Automatically** option is not available in the case of photographs taken with the COOLPIX5000 or COOLPIX5700. **Calculate Automatically** may not produce the desired results with all images; if necessary, use another white balance setting, adjust white balance using the **Fine Adjustment** slider, or sample the image for gray point (🔲 155).

**Sampling the Image for Gray Point**

1 Select **Set Gray Point**
Select **Set Gray Point** from the pop-up menu at the top of the White Balance palette.

2 If the Apply button is off (☒) , turn it on (☑)

Apply button ———

Sliders ———

Pop-up menu

Reset button

Gain values

3 Sample the image to choose a reference point for white balance
You can define white balance using a single point or the average of several points. During sampling, the values for red (R), green (G), and blue (B) for the pixel under the cursor will be shown in the White Balance palette. Refer to these values when selecting the point or points to be sampled.

*Using a Single Point to Define White Balance*
After selecting **Use a single point**, click **Start**. The cursor will take the shape of an eyedropper (✐) when moved over the image in the active window. Click a point that you would like to appear a neutral gray color in the final image. The new value for white balance will be reflected in the image in the active window.

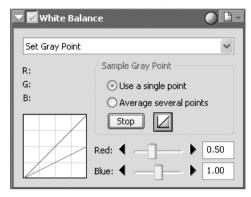*Using the Average of Several Points to Define White Balance*
After selecting **Average several points**, click **Start**. The cursor will take the shape of an eyedropper (✐) when moved over the image in the active window. You can then sample points that should be a neutral gray color in the final image. If you select more than one point, the average will be used to determine white balance. After sampling all the desired points, click **Stop**. The new value for white balance will be reflected in the image in the active window.

🔍 **Sample Size**
The size of the area sampled with the eyedropper cursor can be set using the **Dropper sample size** option in the Advanced Color tab of the Preferences dialog.

Gain for the red and blue channels will be adjusted based on the points sampled, changing the slope of the red and blue tone curves and the position of the red and blue sliders.

White balance can also be adjusted by moving the red and blue sliders or by entering a value from 0.1 to 10 in the text boxes to their right.

### Reset
Click this button to reset the red and blue curves to the default value for gain (1.0).

### Red slider/Blue slider
Adjust gain by moving these sliders or entering a value from 0.1 to 10 in the text boxes to their right.

**Copying White Balance to the Camera (D2H Only)**
If the image in the active window was taken with the D2H, the new white-balance value can be copied directly to one of the camera's white-balance presets or recorded to the camera memory card. Before copying a value to the camera, make sure the camera is connected and turned on. Before copying a value to the memory card, remove the card from the camera and insert it in a CF card reader or card slot.

1 Select **Write settings to camera…** from the white balance settings menu
The dialog shown at right will be displayed. Enter a descriptive comment of up to thirty-six characters and click **OK**.

🖉 **Choosing a Value for Gain**
Very large and small values for gain can result in a drop in image quality.

🖉 **Copying White Balance to the Camera (D2H Only)**
Nikon Capture 4 Editor supports a wider range of values for gain than does the D2H. When white-balance settings are copied to the camera, values that exceed the range of the D2H a will automatically be adjusted to values supported by the camera. Choose values between 0.1 and 2 when using the **Write setting to camera** option.

🔍 **Gain**
The values for red and blue gain chosen in the White Balance palette are multiples of the value set for gain when the photograph was taken.

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2 Choose an option
The dialog shown at right will be displayed. Click **Write to camera**, **Write to CF card**, or **Cancel**.

### Write to camera
The dialog shown at right will be displayed. Choose a preset from the pop-up menu and click **OK** to replace the selected preset with the white-balance value in effect in the White Balance palette. The new value for the selected preset can be confirmed from the camera or Nikon Capture 4 Camera Control.

### Write to CF card
The dialog shown at right will be displayed. Choose the drive containing the camera memory card from the pop-up menu and click **OK** to copy the new white-balance value to the camera memory card. A dialog showing the name of the new file will be displayed; click **OK** to close the dialog.

### Cancel
Exit without copying white balance to the camera or memory card.

White balance preset menu

Existing comment for selected preset

🖉 **"Write to Camera"**
Before connecting the camera to the computer, set the **USB** option in the camera setup menu to **PTP**.

🖉 **"Write to CF Card"**
Nikon Capture 4 writes the new value for white balance to the folder with the highest folder number. If this folder already contains 999 images, the camera may not recognize the file containing the new value for white balance.
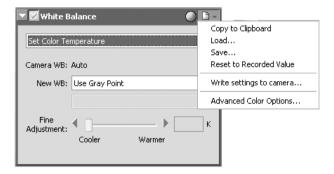
🖉 **Reading White Balance from the Memory Card**
For information on reading white balance value from the memory card, see the *Guide to Digital Photography with the D2H.*

🖉 **Comments**
In addition to letters and numbers, comments can contain quotes, apostrophes, spaces, and any of the following characters: "," "." "!" "?" "#" "$" "%" "&" "(" ")" "[" "]" "{" "}" "*" "+" "-" "/" ":" ";" "<" "=" ">" "_" and "@".

**The White Balance Settings Menu**

Clicking the ⬜▾ icon in the White Balance palette displays the White Balance Settings menu.

| Option | Description |
|---|---|
| **Copy to Clipboard** | Copy current white balance settings to the clipboard. |
| **Load…** | Select this item to restore white balance to settings saved using the Save… option. A dialog will be displayed where you can navigate to the drive (volume) and directory containing the desired settings file (only files with the extension ".nwb" will be displayed). The settings in the White Balance palette will instantly revert to the saved settings. |
| **Save…** | Select this item to save current white balance settings to a named file. These settings can later be recalled using the **Load…** option. Choosing **Save…** displays a dialog where you can choose a destination and file name for the current white balance settings. White balance settings are saved with the extension ".nwb". |
| **Reset to Recorded Value** | Selecting this item restores the value for white balance in effect at the time the photograph was taken. |
| **Write settings to camera…** | If the image in the active window was taken with the D2H, select this option to copy white balance to a white-balance preset or the camera memory card (🔅 156). |
| Recent files | Recent white balance settings files (up to four) are listed at the end of the settings menu. Selecting a file from the list sets the controls in White Balance palette to the saved settings. |
| **Advanced Color Options…** | Open the Nikon Capture 4 Editor Preferences dialog to the Advanced Color tab (🔅 210). |

🖳 **The Settings Menu**
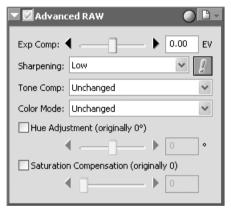
The White Balance Settings menu can also be displayed by selecting **White Balance** from the **Settings** menu.

## Advanced RAW

The options in the Advanced RAW palette are used to alter exposure compensation, image sharpening, tone compensation, color mode, and hue adjustment from the settings in effect at the time the photograph was taken.

1 Display the Advanced RAW palette
Select the tool palette containing the Advanced RAW palette from the **View** menu (the default location for the Advanced RAW palette is Tool Palette 2) and click the triangle at the top left corner of the palette.



2 If the Apply button is off (☒) , turn it on (☑)

3 Adjust Advanced RAW settings

Exp Comp
Choose a value from –2 to +2 EV using the slider or enter a value in the text box to its right. Choose 0 to perform no compensation.

Sharpening
Adjust the sharpness of outlines in the image according to the scene or your personal preference. Choose from **Unchanged**, **None**, **Low**, **Medium Low**, **Normal**, **Medium High**, or **High** (**Medium Low** and **Medium High** are not available with RAW images taken with COOLPIX 5000 and 5700 digital cameras). In the case of photographs taken with the D1, **Normal** is equivalent to **None**.

✔ **The Warning Button**
A warning button appears if the image in the active window is displayed at a zoom ratio too low to allow the effects of Advanced Raw settings to be displayed. Click the button to view the warning.

🖉 **Advanced RAW**
Advanced RAW can be performed on RAW images only. If the image in the active window is JPEG or TIFF, the Apply button in the Advanced Raw palette will be grayed out and inactive.

### Tone Comp
Adjust image contrast. Choose from **Unchanged**, **Less Contrast**, **Normal**, **More Contrast**, or **User-Defined Custom Curve**. Because the D1 does not store custom curves in the image file, settings of **User-Defined Custom Curve** and **Unchanged** are equivalent to **Normal** when selected with photographs taken with the D1. With the D100, D1x, D1h, and D2H, selecting **Unchanged** restores the tone curve in effect at the time the photograph was taken.

### Color Mode
Choose a color mode for fine control over chroma, brightness, and color gamut, much as you would choose different kinds of color film for different scenes. Choose from **Unchanged**, **Mode I (sRGB)**, **Mode II (Adobe RGB)**, or **Mode III (sRGB)**. In the case of images taken with the D1, **Unchanged** is equivalent to D1 Mode (NTSC). Color mode selection is available only in the case of RAW images taken with D1-series, D100, or D2H cameras.

### Hue Adjustment
Adjusts hue without affecting brightness or saturation. Hue can be adjusted in the range –9° to 9° in seven steps of 3°. If red is taken as the starting color, raising hue above 0° (the default setting, at which hue is unchanged) would introduce a yellow cast, making colors that would be red at a setting of 0° appear increasingly orange. Lowering hue below 0° would introduce a blue cast, making colors that would be red at a setting of 0° appear increasingly purple (in the case of the D1x and D1h, –9° is equivalent to a camera hue setting of 0, 0° to a setting of 3, and 9° to a setting of 6). To use the value for hue adjustment in effect at the time the photograph was taken, turn the **Hue Adjustment** check box off.

### Saturation Compensation
This option is used to lower color saturation, principally of primary colors (red, green, and blue). This is a particularly effective when printing, when it can be used to adjust saturated areas of the image. Adjustments can be made in ten steps from 0 to 9 using the slider, with higher numbers representing lower saturation, principally of primary colors. Levels of 8 or 9 can reduce the color noise seen in photographs taken at high sensitivity (ISO equivalency) settings. If the original image was taken with the D100, the default position for the slider will be the value chosen by the camera; with other cameras, the default setting is 0. To use the value for hue adjustment in effect at the time the photograph was taken, turn the **Saturation Compensation** check box off.

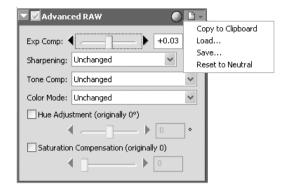**The Sharpening, Tone Comp., and Color Mode Menus**
In the case of images taken with D1-series, D100, or D2H cameras, the sharpening, tone compensation, and color mode settings in effect at the time the photograph was taken are marked with an asterisk (no asterisk will be displayed if "Auto" was selected for sharpening or tone compensation).

**Color Mode**
Color Mode settings apply only to photographs taken with D1-series, D100, or D2H cameras. Mode I, which is adapted to the sRGB color space, is suited to portraits that will be printed or used "as is" with little or no modification. Mode II is adapted to the Adobe RGB color space. This color space is capable of expressing a wider gamut of colors than sRGB, making it the preferred choice for pictures that will be extensively processed or retouched. Mode III, which is adapted to the sRGB color space, is suited to nature or landscape shots that will be printed or used "as is" with little or no modification.

## The Advanced RAW Settings Menu

Clicking the ▤ ▾ button in the Advanced RAW palette displays the Advanced RAW settings menu.



| Option | Description |
|---|---|
| **Copy to Clipboard** | Copy current Advanced RAW settings to the clipboard. |
| **Load…** | Select this item to restore Advanced Raw settings to settings saved using the **Save…** option. A dialog will be displayed where you can navigate to the drive (volume) and directory containing the desired settings file (only files with the extension ".nar" will be displayed). The settings in the Advanced Raw palette will instantly revert to the saved settings. |
| **Save…** | Select this item to save current Advanced Raw settings to a named file. These settings can later be recalled using the **Load…** option. Choosing **Save…** displays a dialog where you can choose a destination and file name for the current white balance settings. Advanced Raw settings are saved with the extension ".nar". |
| **Reset to Neutral** | Selecting this item restores the settings in effect at the time the photograph was taken. In the case of the D1, image sharpening will be set to **None**. |
| Recent files | Recent Advanced RAW settings files (up to four) are listed at the end of the settings menu. Selecting a file from the list sets the controls in Advance RAW palette to the saved settings. |
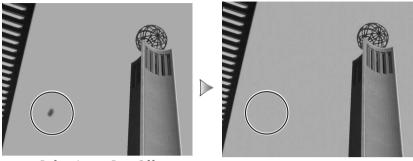
### 🔍 The Settings Menu

The Advanced RAW Settings menu can also be displayed by selecting **Advanced RAW** from the **Settings** menu.



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## Image Dust Off

Image Dust Off compares RAW photographs with a reference image created with the same camera to reduce the effects of any dust that may be present on the low-pass filter protecting the camera's imaging sensor.



Before Image Dust Off

After Image Dust Off

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✎ *Image Dust Off*

Image Dust Off only affects relatively featureless areas of the image.

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1 Display the Image Dust Off palette

Select the tool palette containing the Image Dust Off palette from the **View** menu (the default location for the Image Dust Off palette is Tool Palette 2) and click the triangle at the top left corner of the palette.

Apply button ———



——— Settings menu

2 Turn the Apply button on (☑)

Turn the Apply button on (☑) to enable Image Dust Off.

3 Click **Change**

Click **Change** to select a reference image for Image Dust Off. Image Dust Off will be performed when the image is selected. The date of creation of the selected file will be displayed under "Image Dust Off reference image was taken at" in the Image Dust Off tool palette.

✎ **Image Dust Off**

Image Dust Off can be performed on RAW images only. If the image in the active window is JPEG or TIFF, the Apply button in the Image Dust Off palette will be grayed out and inactive.

✎ **Cameras That Support Image Dust-Off**

The following cameras support Image Dust Off: D1x / D1h (firmware version 1.10 or later), D100, and D2H. Image Dust Off is not supported with COOLPIX cameras, D1 cameras, or with earlier versions of the camera firmware for the D1x and D1h.

🔍 **Reference Images**

The position and amount of dust on the low-pass filter may change. If possible, take reference images regularly and use a reference image taken within one day of the selected photograph.

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### Images Taken with the D2H

If the current image was created with the D2H, Nikon Capture 4 Editor will search for reference files created with the camera Image Dust Off option (extension ".ndf"). If it finds a reference file in the same folder as the current image, a message will be displayed. Click **Yes** to use this file as a reference.

If the folder contains more than one reference file, clicking **Yes** will display the dialog shown at right. Select a file for use with Image Dust Off.

If the user clicks **No** or the current folder does not contain an image created with the camera Image Dust Off option, a folder selection dialog will be displayed. Select a folder containing Image Dust Off reference data.

### Images Taken with Other Cameras

If the image in the active window was not created with the D2H, a folder selection dialog will be displayed. Select the folder containing the desired Image Dust Off reference photo and click **OK**. Nikon Capture 4 Editor will display a message offering to search for reference file applies to the current image. Click **Yes** to start the search; if Nikon Capture 4 Editor finds a suitable file, this will be used as a reference for Image Dust Off. If more than one suitable file is found, the dialog shown at right will be displayed. Select a reference file for Image Dust Off.

Clicking **No** will display a list of all Dust Off ref photos. Select the file that will be used as a reference for processing the current image.

#### ✔ Excessive Dust
If a large amount of dust is detected in the current image, Nikon Capture 4 Editor will display a warning stating that the results of Image Dust Off can not be guaranteed. Click **Yes** to proceed.

#### ✐ No Suitable Images Found
If none of the Image Dust Off reference files found is suitable for use with the image in the active window, Nikon Capture 4 Editor will display a message to this effect and offer to use the most suitable reference image. Clicking **Yes** displays a list of the most suitable reference images; select a reference file to process the image in the active window to reduce the effects of dust.

**Creating Dust Off Ref Photos**

To create a Dust Off ref photo for cameras other than the D2H:

**1** Select a CPU lens
Mount a CPU lens on the camera. We recommend using a lens with a focal length of at least 50 mm. If using a zoom lens, zoom in to the maximum telephoto position.

**2** Adjust camera settings
Choose the following settings:
- Sensitivity (ISO equivalency): minimum setting
- Image quality: NEF (RAW)
- Exposure mode: aperture-priority auto (A)
- Focal length: maximum setting
- Aperture: minimum aperture (largest f/-number)
- Focus: choose manual focus and set focus to infinity

**3** Take a photograph
With the lens about 10 cm from a featureless white object, such as a wall, frame the object so that it fills the viewfinder and take a photograph. The resulting Dust Off ref photo will be recorded as an NEF (RAW) image.

**4** Transfer the photograph to the computer
Use Nikon Transfer ( 13) to copy the photograph to the computer.

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🖉 **Creating Dust Off Ref Photos (D1-Series and D100 Cameras)**

Dust Off ref photos can be taken with the D1x / D1H (firmware version 1.10 or later), and D100 only. Dust Off ref photos can not be created with the D1 or with earlier versions of the camera firmware for the D1x and D1H.

📷 **Camera Shake**

A slight amount of blurring caused by camera shake will not affect Dust Off ref photos.

**The Image Dust Off Settings Menu**

Clicking the 🗋▾ button in the Image Dust Off palette displays the Image Dust Off Settings menu.



| Option | Description |
|---|---|
| **Copy to Clipboard** | Copy current Image Dust Off settings to the clipboard. |
| **Load…** | Select this item to load Image Dust Off settings previously saved using the **Save…** option (see below).  A dialog will be displayed where you can navigate to the drive (volume) and directory containing the desired settings file (only files with the extension ".ndr" will be displayed).  The settings in the Image Dust Off palette will instantly revert to the saved settings. |
| **Save…** | Select this item to save Image Dust Off settings to a named file.  These settings can later be recalled using the **Load…** option.  Choosing **Save…** displays a dialog where you can choose a destination and file name for the current Image Dust Off settings.  Image Dust Off settings are saved with the extension ".ndr". |
| **Reset to Neutral** | Clears the name of the current Image Dust Off reference file from the Image Dust Off palette. |
| Recent files | Recent Image Dust Off settings files (up to four) are listed at the end of the settings menu.  Selecting a file from the list sets the controls in Image Dust Off palette to the saved settings. |

✐ **Reusing Image Dust Off Settings**

Before pasting or loading Image Dust Off settings into the Image Dust Off palette for another image, be sure that the image was created with the same camera used to record the Image Dust Off reference file. If the reference file was created with a different camera, a warning will be displayed.

📷 **The Settings Menu**

The Image Dust Off Settings menu can also be displayed by selecting **Image Dust Off** from the **Settings** menu.

## Vignette Control

The Vignette Control palette is used to correct for loss of marginal lumination, a phenomenon associated with camera lenses that causes a drop in brightness at the edges of a photograph. Vignette Control is most effective when performed on images taken at maximum aperture. If the picture in the active image window is a RAW image taken with a lens equipped to transmit distance information (i.e., a type G or D lens) mounted on a camera that can record this information, Nikon Capture 4 will use the lens information recorded with the image to automatically select an optimal value for Vignette Control. Where lens information is not available, Vignette Control will be based on default lens characteristics. To determine whether a given combination of lens and camera will record distance information, see the table below.

| Camera | Type G or D lens | Other lens |
|---|---|---|
| D100, D2H | Recorded | Not recorded |
| D1x/D1H (firmware version 1.10 or later) | Recorded | Not recorded |
| D1x/D1H (firmware version 1.01 or earlier) | Not recorded | Not recorded |
| D1 | Not recorded | Not recorded |

To use Vignette Control:

1 **Display the Vignette Control palette**
Select the tool palette containing the Vignette Control palette from the **View** menu (the default location for the Vignette Control palette is Tool Palette 2) and click the triangle at the top left corner of the palette.

Apply button —— [ ✓ Vignette Control ○ 📄 ] —— Settings menu

Intensity: ◀ [slider] ▶ +80 %

2 **Turn the Apply button on (✓)**
Turn the Apply button on (✓) to enable Vignette control.

### ✐ Vignette Control
The controls in the Vignette Control palette are only available if the image in the active window is a RAW (NEF) photograph taken with a D1-series, D100, or D2H camera. If the image in the active window is JPEG or TIFF, the Apply button in the Vignette Control palette will be grayed out and inactive. Vignette control can not be used to correct vignetting caused by PC Nikkor lenses or Speedlight photography.

### ✐ Where Distance Information Is Not Available
If the photograph in the active window is a RAW image taken with a lens that does not transmit distance information to the camera or with a D1-series camera not equipped to record distance information, Vignette Control will be based on default lens characteristics. Care may be required to prevent over-correction.

### ✐ Neutral.set
At factory defaults (the default settings stored in the file "Neutral.set"), the Apply button is off (✗) and **Intensity** is set to 80.

3 Adjust intensity

Intensity

Vignette control can be performed manually by dragging the **Intensity** slider or entering a value in the text box to its right.  Choose a value between –100 and +200 according to the drop in marginal lumination exhibited by the lens in use.  The default value is 80; if 0 is selected, no vignette control will be performed.

**The Vignette Control Settings Menu**

Clicking the ▯ ▾ icon in the Vignette Control palette displays the Vignette Control Settings menu.

| Option | Description |
|---|---|
| **Copy to Clipboard** | Copy current Vignette Control settings to the clipboard. |
| **Load…** | Select this item to restore settings saved using the **Save…** option.  A dialog will be displayed where you can navigate to the drive (volume) and directory containing the desired settings file (only files with the extension ".nvc" will be displayed).  The settings in the Vignette Control palette will instantly revert to the saved settings. |
| **Save…** | Select this item to save current settings for the Vignette Control palette to a named file.  These settings can later be recalled using the **Load…** option.  Choosing **Save…** displays a dialog where you can choose a destination and file name for the current Vignette Control settings.  Vignette Control settings are saved with the extension ".nvc". |
| **Reset to Default** | Restores default settings.  **Intensity** will be set to 80. |
| Recent files | Recent Vignette Control settings files (up to four) are listed at the end of the settings menu.  Selecting a file from the list sets the controls in Vignette Control palette to the saved settings. |

🔍 **The Settings Menu**

The Vignette Control menu can also be displayed by selecting **Vignette Control** from the **Settings** menu.
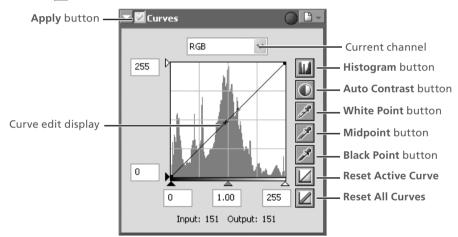
## Curves

Although your Nikon digital camera will reproduce colors accurately if settings have been adjusted appropriately, it will usually be necessary to adjust contrast, tone (brightness) levels, and color balance to make maximum use of the tone range and color gamut offered by a particular output device, such as a printer or monitor.  Nikon Capture offers two tools for performing these tasks: the Color Balance palette (see "Color Balance" later in this chapter) and the Curves palette.   Of the two, the Curves palette offers the more precise control.  The Color Balance palette is useful when, for example, you want to adjust brightness or color balance for all pixels in the image.  The Curves palette, in contrast, allows adjustments to be made to specific portions of the tone range, making it possible to enhance the image while preserving detail.

### Curves—an Overview

To view the Curves palette, select the tool palette containing the Curves palette from the **View** menu (the default location for the Curves palette is Tool Palette 1) and click the triangle at the top left corner of the palette.  To enable the tools in the Curves palette, turn the Apply button on (☑).
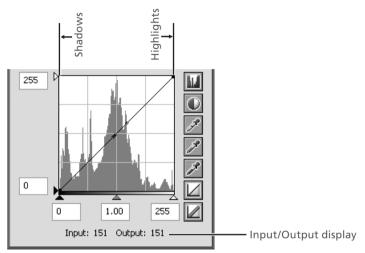


The main editing tool in the Curves palette is the curve edit display, which contains a curve showing the relationship between input (the tones in the original image) and output (how the tones in the input will be represented in the final image).  Separate curves control the relationship between input and output for the image as a whole (the "master curve") and for each of the red, green, and blue color components, or "channels."  The default curve in each case is linear, meaning that tones will be output exactly as they are input.

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✐ **Opening NEF Files Saved in Nikon Capture 3 or Earlier**

In Nikon Capture 4, changes to color balance apply before changes to curves. In earlier versions of Nikon Capture, changes to curves applied before changes to color balance, with the result that settings may change when the images saved in Nikon Capture 3 or earlier are opened in Nikon Capture 4.

Input is plotted along the horizontal axis, with shadows (the dark areas of the image) to the left, highlights (the bright areas of the image) to the right, and mid-tones in between. The left end of the axis marks the minimum possible value for colors in the selected channel (zero, or no color), the right end the maximum value. In the case of the master curve, the minimum value represents areas of the input image that are a true black; the maximum value represents areas that are a true white. Output is plotted along the vertical axis, with the minimum possible output value (again, zero, or no color) at the bottom and the maximum output value at the top.



Input/Output display

When the cursor is moved over the curve edit display, the input and output values for the point under the cursor are shown in the input/output display. The input value represents the level of the pixel in the original image, the output value the level of the pixel after any changes to the curve have been applied.
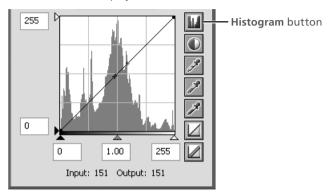
### The Curve Edit Display
Although values for input and output in the Curves palette range from zero to 255 (eight-bit precision, familiar to users of other image editing software), the results of any changes to curves are calculated at a precision of sixteen bits. This allows twelve-bit RAW data to be modified without lowering the quality of the output.

### Resizing the Curves Palette
The Curves palette can be resized by dragging its borders (Windows) or by dragging the handle at the lower right corner of the palette (Macintosh). The curves edit display changes with the size of the palette, allowing you to enlarge the display to a maximum of 256×256 pixels. At this size, each of the 256 points on the tone curve is represented by a separate pixel, granting maximum precision when editing curves.

## Viewing the Histogram

The first step in adjusting tone levels and color balance in the Curves palette is to view the histogram displayed in the background of the curve edit display. The histogram tells you what tones are present in the original image and in what amounts, information that you will use when setting the black point and white point and editing curves. The histogram takes the form of a bar graph. The horizontal axis gives the tone level, with shadows to the left and highlights to the right. The vertical axis gives the number of pixels of each tone level found in the image, scaled to fit in the curve edit display.



**Histogram** button

By assigning the darkest tones in the image an output value of zero and the brightest tones in the image an output value of 255, blacks will be output as blacks and whites as whites, making the most effective use of the dynamic range of the output device.

To view the distribution of tones in the final, output image after changes to curves, click and hold the **Histogram** button 📊.

🖉 **The Histogram (RAW/16-Bit TIFF Images Only)**
To reduce display times when dealing with large amounts of image data, Nikon Capture 4 may display a histogram containing vertical lines.
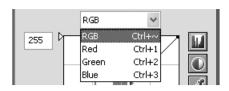
🔍 **Channel Selection Shortcuts**
The current channel can also be selected using the following shortcuts:
- Ctrl ˜ (Windows)/⌘ ˜ (Macintosh)
  Master channel (RGB)
- Ctrl 2 (Windows)/⌘ 2 (Macintosh)
  Green channel (RGB)
- Ctrl 1 (Windows)/⌘ 1 (Macintosh)
  Red channel (RGB)
- Ctrl 3 (Windows)/⌘ 3 (Macintosh)
  Blue channel (RGB)

### Channel Selection

You can modify tones for all colors in the image using the master curve, or select any of the red, green, and blue curves for editing using the channel menu. The histogram shows tone levels for the selected channel only. When the master curve is selected, the auto-contrast button and white-point and black-point eyedropper tools apply simultaneously to all of the red, green, and blue curves (the master curve is unaffected). When one of the red, green, and blue curves is selected, these controls can be used to edit the selected curve only.

### Setting the White Point and Black Point

The endpoints of the curve are referred to as the "white point" and the "black point." The black point for a given channel represents the darkest shade (minimum value) for that color, the white point, the brightest shade (maximum value). By default, the input and output values for the black point are zero. The darkest shade in the input image may however be greater than zero, with the result that a portion of the curve is dedicated to reproducing tones not actually present in the image. Increasing the input value for the black point until it matches the darkest shade in the image will steepen the curve, enhancing overall contrast without causing a corresponding loss of detail in shadows. Similarly, if the original image does not actually contain shades corresponding to the maximum value, the white point can be lowered to match the brightest shade in the image.

There are two steps to selecting a white point and black point for the final image: choosing the white-point and black-point input levels, and selecting output levels.

#### White-Point and Black-Point Input Levels

Input levels for the white point and black point can be set using any of the following three methods:
- automatic contrast adjustment
- white-point and black-point sliders
- direct sampling using the white-point and black-point eyedropper tools
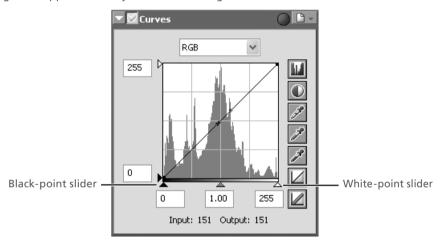
#### Automatic Contrast Adjustment

In automatic contrast adjustment, Nikon Capture automatically selects white and black points that exclude a certain percentage of the brightest and darkest pixels in the image, steepening curves for enhanced contrast (the exact percentage of pixels excluded can be specified in the Preferences dialog; 210). By default, 0.5% of the brightest and darkest pixels are excluded, producing a curve that makes optimal use of the output tone range while preserving details in shadows and highlights.

To perform an auto contrast operation, click the **Auto Contrast** button . The white and black points for each of the red, green, and blue channels will be modified simultaneously and the master curve will be displayed in the Curves palette (the master curve itself is unaffected by this operation). Clicking the button with the Ctrl (Windows) or option (Macintosh) key held down adjusts contrast only for the channel currently selected in the channel menu.

### White-Point and Black-Point Sliders

The white-point and black-point sliders can be used to match the white and black points to the histogram displayed in the curve edit display. While these sliders can be used to edit curves for any channel, the best results are usually obtained when they are used to modify the master curve.

To edit the white point or black point, click the corresponding slider once to activate it, then drag it to the right or left (a value can also be entered directly in the text box underneath the slider). Matching the black-point slider with the lowest input value displayed in the histogram will set the minimum output value for the selected channel to the darkest pixel actually present in the image, steepening the curve and enhancing contrast without sacrificing detail in shadows. Similarly, matching the white-point slider with the highest input value displayed in the histogram will set the maximum output value for the selected channel to the brightest pixel present in the image, enhancing contrast without loss of detail in highlights. Any changes are applied instantly to the active image.



Black-point slider ———— White-point slider

Sampling the Image for White Point or Black Point

The white point or black point can be set by directly sampling the image, allowing you to choose the pixels that will be used to set the maximum (white point) or minimum (black point) output value. This makes it possible to set the black point by matching it to a pixel in the darkest part of the image containing detail you want to preserve, eliminating details in darker areas that are not important to the final image. Similarly, you can match the white point to a pixel in the brightest area of the image containing details important to the final image. While direct sampling can be used with any channel, it is most effective when used with the master curve. When the master curve is selected, sampling will set the white or black point for red, green, and blue curves simultaneously; the master curve itself is unaffected.

To sample the white point, click the **White Point** button 🖉. When the cursor is moved over the active image, it will take the shape of an eyedropper. Move the cursor over the image to find the pixel that you want to use to set the white point, keeping an eye on pixel level display in the Information palette to identify pixels with high input values. With the cursor over the target pixel, click the mouse button. The input value for the selected pixel will be used as the input value for the white point. The cursor will return to its original shape, and the image will automatically be altered to reflect the new value for white point.

To sample the image for the black point, click the **Black Point** button 🖉 and move the eyedropper cursor over the image until you find the point that you want to use to set the minimum input value, then click the mouse button to select the black point.
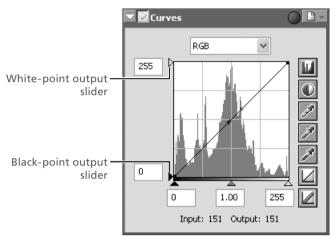
🔍 **Setting the White Point or Black Point for the Current Channel**
By default, sampling sets the white point or black point for all channels and displays the master channel. To set the white point, midpoint, or black point for the current channel only, sample the image while holding down the Ctrl key (Windows) or option key (Macintosh) on the keyboard. Note that midpoint can not be sampled for a single channel; regardless of the channel currently selected in the channel menu, sampling the image for midpoint always sets the midpoint for all channels and displays the master channel.

### White Point and Black Point Output Levels

Once you have set the input level for the black point and white point, output levels can be altered to reflect the actual shade of the darkest and brightest pixels in the image. If the darkest shade in the image represents a true black, for example, the output level for the black point can be left at zero. If, however, darkest shade present in the image is a lighter color, the output level for the black point can be raised to achieve more natural coloration.

The output levels for the white point and black point are set using the white-point and black-point output sliders on the left side of the curve edit display.
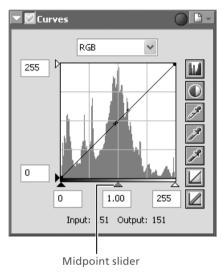


To set the output level, click the slider once to activate it, then drag it up or down until you have found the desired output level (the output level can also be set by entering a value directly in the text box to the left of the slider). The effects of the change will be reflected in the active image.

### Setting the Midpoint

The point midway between the maximum and minimum input values is known as the "midpoint," which represents a neutral shade corresponding to an output level of 128. The midpoint is controlled by a midpoint slider at the bottom of the curve edit display. Moving the midpoint slider to the left increases the brightness of mid-tones without "washing out" highlights. Moving the slider to the right darkens mid-tones without obliterating detail in shadows.

The midpoint can be set using the midpoint slider or by directly sampling the image using the midpoint eyedropper tool.



Midpoint slider

### *The Midpoint Slider*

The midpoint slider is located at the bottom of the curve edit display.

After clicking the slider once to activate it, move it to the left to increase the brightness of mid-tones in the selected channel, or move it to the right to decrease brightness. Alternatively, you can enter a value for gamma directly in the text box under the slider. The effects of changes to the midpoint can be seen in the active image.

### Gamma

Gamma (also written "γ") is a fundamental property of video systems which determines the intensity of the output signal relative to the input. When calculating gamma, the maximum possible input intensity is assigned a value of one, and the minimum possible intensity (no input) is assigned a value of zero. Output is calculated by raising input to a power that is the inverse of the gamma value (output = input$^{(1/\gamma)}$). In practical terms, raising the gamma value has the same effect as moving the midpoint slider to the left, raising mid-tone output values and brightening the image while leaving the maximum and minimum values untouched. Lowering the gamma value has the same effect as moving the midpoint slider to the right, lowering mid-tone output values and darkening the image. The default value for gamma is one, which produces a linear curve in which input and output values are the same. Gamma can be set to any value between 0.05 and 6.00.

*Sampling the Image for Midpoint*
The midpoint can also be set by direct sampling. Regardless of the channel currently selected in the channel menu, sampling simultaneously defines the midpoint for each of the red, green, and blue channels while leaving the midpoint for the master curve unchanged.

To sample the midpoint, click the **Midpoint** button 🖊. When the cursor is moved over the active image, it will take the shape of an eyedropper. Move the cursor over the image to find the pixel that you want to use to set the midpoint, keeping an eye on the pixel level display in the Information palette to identify pixels with a neutral input value (look for pixels that you think should be a neutral gray color in the final image). With the cursor over the target pixel, click the mouse button. The input value for the selected pixel will be used as the reference value for the midpoint. The cursor will return to its original shape, and the image will automatically be altered to reflect the new value for midpoint.

**Editing Curves Directly**
Fine adjustments can be made to brightness and contrast in specific portions of the tone range by adding additional points to the curves for each channel. These points can be freely adjusted by dragging them into new positions, changing the shape of the curve. Steepening the slope in a given portion of the curve will enhance contrast in that portion of the tone range. Changing the curve so that input levels in a given portion of the tone range are mapped to higher output levels will brighten tones in the affected tone range; similarly, changing the curve to map input levels to lower output levels will darken tones in the affected range.

*Adding New Points to the Curve*
Move the cursor over the curve edit display and click once to enter curve edit mode. Move the cursor to the position where you would like to add a new point, then click. A new point will be added at this position and the curve will automatically be adjusted to pass through this point. The position of the point can be adjusted by dragging it to a new location within the curve edit display. The image in the active window will automatically be adjusted to reflect changes to the curve.

*Removing Points from the Curve*
Points can be removed from the curve by dragging them out of the curve window.

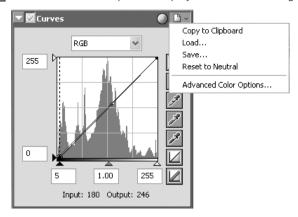*Resetting the Active Curve to Linear*
The default linear curve for the current channel can be restored by clicking the 📐 button in the Curves palette.

*Resetting All Curves to Linear*
To reset all curves to linear, click the 📐 button. All curves will be reset and the RGB master channel will be displayed in the Curve palette.

**The Curves Settings Menu**
Clicking the ▣▾ button in the Curves palette displays the Curves Settings menu.



| Option | Description |
|---|---|
| **Copy to Clipboard** | Copy current Curves settings to the clipboard. |
| **Load…** | Select this item to load curves previously saved using the **Save…** option (see below). A dialog will be displayed where you can navigate to the drive (volume) and directory containing the desired settings file (only files with the extension ".ncv" will be displayed). The settings in the Curves palette will instantly revert to the saved settings. |
| **Save…** | Select this item to save curves for all channels to a named file. These settings can later be recalled using the **Load…** option. Choosing **Save…** displays a dialog where you can choose a destination and file name for the current curves. Curves are saved with the extension ".ncv". |
| **Reset to Neutral** | Reset all curves to linear. |
| Recent files | Recent Curves settings files (up to four) are listed at the end of the settings menu. Selecting a file from the list sets the controls in Curves palette to the saved settings. |
| **Advanced Color Options…** | Open the Nikon Capture 4 Editor Preferences dialog to the Advanced Color tab. |

**⊙ The Settings Menu**
The Curves Settings menu can also be displayed by selecting **Curves** from the **Settings** menu.
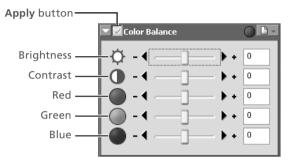
## Color Balance

The Color Balance palette offers simple controls for adjusting overall brightness, contrast, and color balance for the entire image. Unlike the controls in the Curves palette, however, the Color Balance palette does not allow you to make changes that affect only a portion of the tone range. After making broad adjustments to color balance in the Color Balance palette, examine the histogram in the Curves palette and make fine adjustments as needed.

### Adjusting Brightness, Contrast, and Color Balance

1 Display the Color Balance palette
Select the tool palette containing the Color Balance palette from the **View** menu (the default location for the Color Balance palette is Tool Palette 1) and click the triangle at the top left corner of the palette.



2 If the Apply button is off (☒) , turn it on (☑)

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✒ **Opening NEF Files Saved in Nikon Capture 3 or Earlier**

In Nikon Capture 4, changes to color balance apply before changes to curves. In earlier versions of Nikon Capture, changes to curves applied before changes to color balance, with the result that settings may change when the images saved in Nikon Capture 3 or earlier are opened in Nikon Capture 4.

✒ **Nikon Capture 3 or Earlier**

Changes to color balance settings are made in the range –100 to +100. In Nikon Capture 3 and earlier, changes were made in the range –50 to +50. A value of +50 in Nikon Capture 3 corresponds to a value of +100 in Nikon Capture 4.

# 3 Adjust brightness, contrast, and color balance

Adjust brightness, contrast, and color balance using the options in the Color Balance palette.

*Adjusting Overall Brightness*

The brightness slider adjusts brightness for the entire image. Dragging the brightness slider in the + direction brightens all the colors in the image, making the image as a whole more white. Dragging the slider in the – direction darkens all the colors in the image, making the image as a whole darker and less distinct. Unlike adjustments to the midpoint in the Curves palette, this setting applies equally to shadows and highlights, producing a flat, low-contrast image. A value for brightness between –100 and +100 can be entered directly in the text box to the right of the slider.
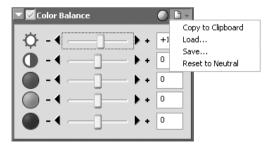
*Adjusting Image Contrast*

Dragging the contrast slider in the + direction heightens the difference between highlights and shadows in the image, increasing contrast. Dragging the slider in the – direction decreases the difference between light and dark portions of the image, lowering contrast. A value for contrast between –100 and +100 can be entered in the text box to the right of the slider.

*Adjusting Color Balance*

While the brightness slider adjusts brightness for the image as a whole, the three color-balance controls allow the user to adjust brightness for each color individually. For example, dragging the red slider in the + direction brightens the red portions of the image, making the image as a whole more red. Dragging it in the – direction dims the red elements in the image, bringing out the remaining colors. A value between –100 and +100 can be entered for each color in the text box to the right of the slider.

**The Color Balance Settings Menu**
Clicking the ⬛▼ button in the Color Balance palette displays the Color Balance Settings menu.



| Option | Description |
|---|---|
| **Copy to Clipboard** | Copy current Color Balance settings to the clipboard. |
| **Load…** | Select this item to load brightness, contrast, and color balance settings previously saved using the **Save…** option (see below).  A dialog will be displayed where you can navigate to the drive (volume) and directory containing the desired settings file (only files with the extension ".nca" will be displayed).  The settings in the Color Balance palette will instantly revert to the saved settings. |
| **Save…** | Select this item to save brightness, contrast, and color balance settings to a named file.  These settings can later be recalled using the **Load…** option.  Choosing **Save…** displays a dialog where you can choose a destination and file name for the current Color Balance settings.  Color Balance settings are saved with the extension ".nca". |
| **Reset to Neutral** | Resets all brightness, contrast, and color balance settings to zero. |
| Recent files | Recent Color Balance settings files (up to four) are listed at the end of the settings menu.  Selecting a file from the list sets the controls in Color Balance palette to the saved settings. |

🔍 **The Settings Menu**
The Color Balance Settings menu can also be displayed by selecting **Color Balance** from the **Settings** menu.
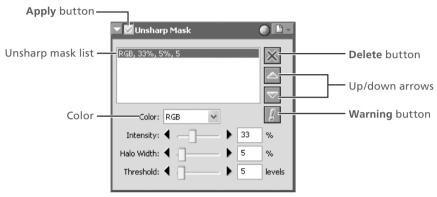
## Unsharp Mask

Using Unsharp Mask, the user can increase the sharpness of photographs by making edges more distinct. Unsharp Mask works by increasing the contrast of the edges in the image while leaving other areas untouched. The amount of sharpness is determined by three factors: intensity, halo width, and threshold.

**Creating Unsharp Masks**

1 Display the Unsharp Mask palette
Select the tool palette containing the Unsharp Mask palette from the **View** menu (the default location for the Unsharp Mask palette is Tool Palette 1) and click the triangle at the top left corner of the palette.

Apply button

Unsharp mask list — RGB, 33%, 5%, 5

Delete button

Up/down arrows

Color — Color: RGB

Warning button

Intensity: 33 %
Halo Width: 5 %
Threshold: 5 levels

2 If the Apply button is off (☒) , turn it on (☑)

**The Warning Button**
A warning button appears if the image in the active window is displayed at a zoom ratio too low to allow the effects of Unsharp Mask to be displayed. Click the button to view the warning.

**3** Create an Unsharp Mask

Unsharp Mask can be applied to all the colors in the image or selectively to any combination of red, green, and blue channels. Select a combination of colors from the color pop-up menu. The Unsharp Mask you create will be applied only to edges in the selected colors.

**4** Select values for intensity, halo width, and threshold

### Intensity

The amount the contrast of edges will be increased. Too great an intensity will degrade your image rather than sharpening it.

### Halo Width

The size of the areas that will be affected. The greater the halo width, the wider the edges in the sharpened image will appear. Too large a value for halo width will produce a "halo" along edges in the image.

### Threshold

The limit at which sharpening will be applied. If the threshold is zero, sharpening will apply to all pixels in the image. Increasing the threshold increases the amount of contrast that must be present between pixels before Unsharp Mask will be applied, with the result that only more distinctly contrasting edges will be affected.

**5** Create additional masks

The controls in the Unsharp Mask palette allow you to select multiple combinations of colors that can be sharpened to different degrees. Repeat steps 1–4 to create additional masks for different color combinations. As new masks are created, they will be added to the end of the Unsharp Mask list. Masks apply in the order listed. To change the order in which masks apply, select a mask in the Unsharp Mask list and click the up arrow to move it up in the list, or the down arrow to move it down. To delete an Unsharp Mask from the list, select it and click the **Delete** button.

### 🔍 Unsharp Mask

Unsharp Mask sharpens edges without affecting color balance by making adjustments only to luminosity (brightness). The effect is the same as performing Unsharp Mask with the Luminosity channel selected in the Adobe Photoshop Lab color model. If Unsharp Mask is applied to a single channel, such as red, the values for ab (chrominance) are used to determine what points in the image are red, and Unsharp Masking applied to the Luminosity channel for those points only. An intensity of around 20% in Nikon Capture 4 is roughly equivalent to 100% in Adobe Photoshop.

No sharpening will be applied if Intensity is set to zero. Intensity must be set to at least 1% if sharpening is to apply.

**The Unsharp Mask Settings Menu**

Clicking the 🗋▾ button in the Unsharp Mask palette displays the Unsharp Mask Settings menu.



| Option | Description |
|---|---|
| **Copy to Clipboard** | Copy current Unsharp Mask settings to the clipboard. |
| **Load…** | Select this item to load Unsharp Masks previously saved using the **Save…** option (see below). A dialog will be displayed where you can navigate to the drive (volume) and directory containing the desired settings file (only files with the extension ".num" will be displayed). The settings in the Unsharp Mask palette will instantly revert to the saved settings. |
| **Save…** | Select this item to save Unsharp Mask settings to a named file. These settings can later be recalled using the **Load…** option. Choosing **Save…** displays a dialog where you can choose a destination and file name for the current Unsharp Mask settings. Unsharp Mask settings are saved with the extension ".num". |
| **Reset to Neutral** | Deletes all Unsharp Masks currently displayed in the Unsharp Mask palette. |
| Recent files | Recent Unsharp Mask settings files (up to four) are listed at the end of the settings menu. Selecting a file from the list sets the controls in Unsharp Mask palette to the saved settings. |

🔍 **The Settings Menu**

The Unsharp Mask Settings menu can also be displayed by selecting **Unsharp Mask** from the **Settings** menu.
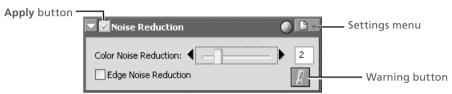
## Noise Reduction

This palette can be use to mitigate the effects of noise that sometimes appears in images taken with digital cameras.

**Reducing Noise**

1 Display the Noise Reduction palette
Select the tool palette containing the Noise Reduction palette from the **View** menu (the default location for the Noise Reduction palette is Tool Palette 2) and click the triangle at the top left corner of the palette.

**Apply** button

Settings menu

Warning button

2 If the Apply button is off (☒) , turn it on (☑)

3 Adjust noise reduction options

Color Noise Reduction
To reduce noise (a mottling phenomenon that occurs principally in photographs taken at high sensitivities), drag the slider to select a value from 0 (no noise reduction performed) to 10 (maximum noise reduction).

Edge Noise Reduction
Check this box to reduce noise along edges in the photo, making outlines more distinct.

**The Warning Button**
Color noise reduction will not be performed when the warning button is displayed.  Zoom the image in until the warning button is no longer displayed.

4 View the results
View the results in the image in the active window and adjust settings as necessary.

**The Noise Reduction Settings Menu**
Clicking the [icon] button in the Noise Reduction palette displays the Noise Reduction Settings menu.



| Option | Description |
|---|---|
| **Copy to Clipboard** | Copy current Noise Reduction settings to the clipboard. |
| **Load…** | Select this item to load Noise Reduction settings previously saved using the Save… option (see below). A dialog will be displayed where you can navigate to the drive (volume) and directory containing the desired settings file (only files with the extension ".nnr" will be displayed). The settings in the Noise Reduction palette will instantly revert to the saved settings. |
| **Save…** | Select this item to save Noise Reduction settings to a named file. These settings can later be recalled using the Load… option. Choosing Save… displays a dialog where you can choose a destination and file name for the current Noise Reduction settings. Noise Reduction settings are saved with the extension ".nnr". |
| **Reset to Neutral** | Resets Noise Reduction settings to their default values. |
| Recent files | Recent Noise Reduction settings files (up to four) are listed at the end of the settings menu. Selecting a file from the list sets the controls in Noise Reduction palette to the saved settings. |

[icon] **The Settings Menu**
The Noise Reduction Settings menu can also be displayed by selecting **Noise Reduction** from the **Settings** menu.

## Digital DEE

Digital DEE (**D**ynamic **E**xposure **E**xtender) reveals details in shadows and highlights, correcting for underexposure in back-lit subjects or shaded areas of images and for overexposure in brightly lit areas.

1 Display the Digital DEE palette
Select the tool palette containing the Digital DEE palette from the **View** menu (the default location for the Digital DEE palette is Tool Palette 1) and click the triangle at the top left corner of the palette.

Apply button ———

Settings menu

2 Turn the Apply button on (☑)
Turn the Apply button on (☑) to enable Digital DEE.

3 Adjust settings

*Enhancing Details in Shadows*

To enhance details in shadows, adjust shadow brightness using the **Shadow adjustment** slider or by entering a value between 1 and 100 in the text box to its right.  The larger the value, the brighter shadows in the image will be.  The default setting is 20.

**Shadow adjustment**
slider and text box

The effects of changes to shadow brightness will be visible in the image in the active window (some time may be required for the image to be updated).  Adjust settings until the desired results are achieved.
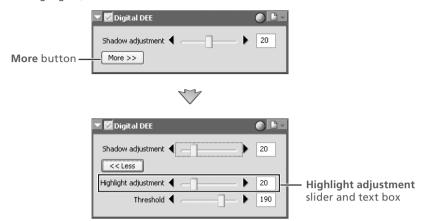
🖉 **Digital DEE**
Digital DEE is available only with images created using the Nikon digital cameras supported under Nikon Capture 4 (D1, D1x, D1H, D2H, D100, and COOLPIX cameras, with the exceptions of the E100, E300, and E600).  Images must be in their original file formats.

🖉 **Monotone Shadows**
Shadow adjustment has no effect if details in shadows have been totally obliterated, leaving shadows a single, uniform color.

*Enhancing Details in Highlights*

Digital DEE can also be used to reveal details in highlights where the background is much brighter than the subject or the subject much brighter than the background. To enhance details in highlights, click **More**.

**More** button ──

More >>

Highlight adjustment
slider and text box

Adjust highlights using the **Highlight adjustment** slider or by entering a value between 1 and 100 in the text box to its right. Increasing highlight adjustment increases contrast in highlights, while decreasing highlight adjustment has the opposite effect. The default value is 20.

The effects of changes to highlights will be visible in the image in the active window (some time may be required for the image to be updated). Adjust settings until the desired results are achieved.
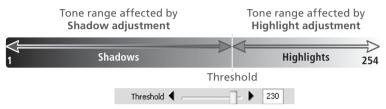
**Monotone Highlights**

Highlight adjustment has no effect if details in highlights have been totally obliterated, leaving highlights a single, uniform color.

*Defining "Shadows" and "Highlights"*

The **Threshold** slider in the detailed view of the "Digital DEE" panel determines the border between shadows and highlights.
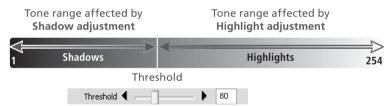


**Threshold** slider and text box

Moving the slider to the right or entering a higher value in the **Threshold** text box increases the range of tones affected by the **Shadow adjustment** slider and reduces the range of tones affected by the **Highlight adjustment** slider.



Tone range affected by **Shadow adjustment**

Tone range affected by **Highlight adjustment**

Try increasing the threshold value if shadow brightness fails to brighten shadows in the desired tone range, or if highlight adjustment is affecting too great an area.
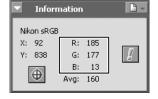
Moving the slider is to the left or entering a lower value in the **Threshold** text box increases the range of tones affected by the **Highlight Adjustment** slider and reduces the range of tones affected by the **Shadow Adjustment** slider.



Tone range affected by **Shadow adjustment**

Tone range affected by **Highlight adjustment**

Try decreasing the threshold value if highlight adjustment fails to increase contrast in the desired tone range, or if shadow brightness is affecting too great an area.
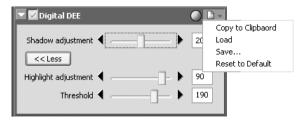
### Threshold

Ideally, the threshold for shadow adjustment should be twenty to forty greater than the highest of the R and G values in the brightest shadows. The threshold for highlight adjustment should be twenty to forty less than lowest of the R and G values in the darkest highlights. To choose a threshold that can be used for both shadows and highlights, enter the average of the highest value (R or G) in the brightest shadows and the lowest value (R or G) in the darkest highlights. Color values can be determined by moving the cursor over the image and observing the R and G values in the Information palette.

**The Digital DEE Settings Menu**
Clicking the ☐ ▾ button in the Digital DEE palette displays the Digital DEE Settings menu.



| Option | Description |
|---|---|
| **Copy to Clipboard** | Copy current Digital DEE settings to the clipboard. |
| **Load…** | Select this item to load Digital DEE settings previously saved using the **Save…** option (see below). A dialog will be displayed where you can navigate to the drive (volume) and directory containing the desired settings file (only files with the extension ".ndd" will be displayed). The settings in the Digital DEE palette will instantly revert to the saved settings. |
| **Save…** | Select this item to save Digital DEE settings to a named file. These settings can later be recalled using the **Load…** option. Choosing **Save…** displays a dialog where you can choose a destination and file name for the current Digital DEE settings. Digital DEE settings are saved with the extension ".ndd". |
| **Reset to Default** | Reset Digital DEE settings to default values. |
| Recent files | Recent Digital DEE settings files (up to four) are listed at the end of the settings menu. Selecting a file from the list sets the controls in Digital DEE palette to the saved settings. |

🔍 **The Settings Menu**
The Digital DEE Settings menu can also be displayed by selecting **Digital DEE** from the **Settings** menu.

## Fisheye Lens

*Fisheye-to-Rectilinear Image Transformation for Use with DX 10.5 mm Fisheye Lenses*

The tools in the Fisheye Lens palette modify images taken with an AF DX 10.5 mm f2.8G Nikkor fisheye lens to resemble images taken with a normal wide-angle lens. This option is not available with other lenses.

1 Display the Fisheye Lens palette
Select the tool palette containing the Fisheye Lens palette from the **View** menu (the default location for the Fisheye Lens palette is Tool Palette 2) and click the triangle at the top left corner of the palette.

Apply button ——

Settings menu ←

**Fill color** menu ——

**Include areas where there is no image data** check box

AF DX Fisheye 10.5mm/2.8G
Include areas where there is no image data
Fill color: Black

2 Turn the Apply button on ( )
Turn the Apply button on ( ) to enable the Fisheye Lens. The image in the active window will be trimmed around a vertical area in the center of the image that has been processed to compensate for fisheye distortion, and the **Include areas where there is no image data** check box will be enabled.

**Fisheye Lens**
AF DX Fisheye 10.5mm/2.8G
Include areas where there is no image data
Fill color: Black

3 Adjust settings

Include areas where there is no image data
Check this option to trim the image in the active area around a horizontal area in the center of the image that has been processed to compensate for fisheye distortion and fill areas where there are no image data with the color selected in the **Fill color** menu.

Image created with
supported fisheye lens

Apply button on
(vertical compensation)

**Include areas where there is no image data** selected
(horizontal compensation)

Areas without image data filled in white, light gray, dark gray, black, red, green, blue, cyan, magenta, or yellow

*190*

## The Fisheye Lens Settings Menu

Clicking the 🗅 ▾ button in the Fisheye Lens palette displays the Fisheye Lens Settings menu.

| Option | Description |
|---|---|
| **Copy to Clipboard** | Copy current Fisheye Lens settings to the clipboard. |
| **Load…** | Select this item to load Fisheye Lens settings previously saved using the **Save…** option (see below). A dialog will be displayed where you can navigate to the drive (volume) and directory containing the desired settings file (only files with the extension ".nfe" will be displayed). The settings in the Fisheye Lens palette will instantly revert to the saved settings. |
| **Save…** | Select this item to save Fisheye Lens settings to a named file. These settings can later be recalled using the **Load…** option. Choosing **Save…** displays a dialog where you can choose a destination and file name for the current Fisheye Lens settings. Fisheye Lens settings are saved with the extension ".nfe". |
| **Reset to Default** | Reset Fisheye Lens settings to default values. |
| Recent files | Recent Fisheye Lens settings files (up to four) are listed at the end of the settings menu. Selecting a file from the list sets the controls in Fisheye Lens palette to the saved settings. |

📝 **Vertical Compensation**

Because the edges are trimmed when vertical compensation is in effect, images saved with the Apply button checked have a smaller file size than the originals.

🔍 **The Settings Menu**

The Fisheye Lens Settings menu can also be displayed by selecting **Fisheye Lens** from the **Settings** menu.

## Output Size and Resolution

The Size/Resolution palette is where you specify the final ("output") size of the portion of the image that will be saved when **Save as…** is selected from the **File** menu. The choice of settings in the Size/Resolution palette depends on how you intend to use the image and the amount of storage space you have available. Some examples are given below.

*If the image will be used in printing or desktop publishing…*
…size and resolution will be dictated by the resolution of the output device and the physical size of the image when printed, measured in centimeters or points rather than pixels.
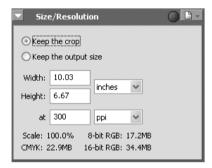
*If you intend to use the image on a web page…*
…specify output size in pixels, keeping file size to a minimum for rapid downloads. Resolution in this case is not an issue.

**Adjusting Size and Resolution**

1 Display the Size/Resolution palette
Select the tool palette containing the Size/Resolution palette from the **View** menu (the default location for the Size/Resolution palette is Tool Palette 1) and click the triangle at the top left corner of the palette.



#### RAW Image Size (D1x Only)
The D1x is designed to record images at 3,008 × 1,960 pixels (six megapixels). Image quality will not necessarily increase when RAW images are output at a size of 4,016 × 2,616 pixels (ten megapixels, equivalent to the dimensions of the CCD).

#### NEF Images
When an image is saved in NEF format, the entire image will be saved together with information on resolution and the size and dimensions of the current crop.

## 2 Make changes to options as described below
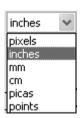
### Keep the crop

When **Keep the crop** is selected, you can use the mouse to adjust the size and position of the current crop as desired. If you enter a new value for height or width in the Size/Resolution palette, the remaining dimension changes automatically to maintain a constant height-width aspect ratio, and scale is adjusted to reflect the new dimensions (scale can not be increased beyond 200%). If the image can not be output at the current resolution using the new dimensions, resolution will automatically be adjusted to an appropriate value. This option is useful when you want to specify height and width after selecting a crop.

### Keep the output size

**Keep the output size** locks output dimensions and file size at their current values, setting the aspect ratio of the current crop according to the dimensions input in the Size/Resolution palette. This height-width aspect ratio will be maintained when you adjust the size of the crop in the active window, and scale will be adjusted to reflect changes to the size of the crop (scale can not be increased beyond 200%). If the image can not be output at the current resolution using the new dimensions, resolution will automatically be adjusted to an appropriate value. This option is useful when you want to set the output dimensions and file size of the final image before selecting a crop.

### Width/Height

The output dimensions for the current crop can be entered in these text boxes. The units used to describe output dimensions can be chosen from the menu to the right of the text boxes.

| inches ⌄ |
|---|
| pixels |
| inches |
| mm |
| cm |
| picas |
| points |

### at

The **at** text box is where you enter the output resolution. This text box is not active if the unit chosen for output size is "pixels," when resolution is fixed at 300 ppi. The value chosen at other settings should reflect the resolution of the output device on which the final image is to be printed. The units for resolution can be selected from the resolution menu, which offers a choice of pixels per inch (ppi) or pixels per centimeter (ppcm). The default resolution is 300 ppi.
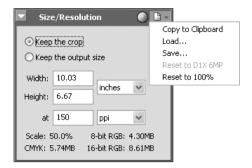
| ppi ⌄ |
|---|
| ppi |
| ppcm |

**Scale/File Size**

Scale (output size as a percentage of input size, maximum 200%) is displayed at the bottom of the Size/Resolution palette, together with the uncompressed file size of the image that would be created at current settings. File size depends on the color model (RGB or CMYK) and, in the case of RGB images, on the pixel bit-depth that will be used when the image is saved. Separate uncompressed file sizes are shown for CMYK and for eight-bit and sixteen-bit RGB.

### The Size/Resolution Settings Menu

Clicking the 🗋 ▾ button in the Size/Resolution palette displays the Size/Resolution Settings menu.



| Option | Description |
|---|---|
| **Copy to Clipboard** | Copy current Size/Resolution settings to the clipboard. |
| **Load…** | Select this item to load size and resolution settings previously saved using the **Save…** option (see below). A dialog will be displayed where you can navigate to the drive (volume) and directory containing the desired settings file (only files with the extension ".nsr" will be displayed). The settings in the Size/Resolution palette will instantly revert to the saved settings. |
| **Save…** | Select this item to save size and resolution settings to a named file. These settings can later be recalled using the **Load…** option. Choosing **Save…** displays a dialog where you can choose a destination and file name for the current size and resolution settings. Size and resolution settings are saved with the extension ".nsr". |
| **Reset to D1X 6MP** | Reduces RAW images created with the D1x by 74.9% to 3,008 × 1,960 pixels (six megapixels). Select **Reset to 100%** to restore the image to 4,016×2,616 pixels. This option is only available with RAW images taken using the D1x. |
| **Reset to 100%** | Enlarges the crop to include the entire image. Resolution will be reset to the default value of 300 ppi (118.11 ppcm). |
| Recent files | Recent Size/Resolution settings files (up to four) are listed at the end of the settings menu. Selecting a file from the list sets the controls in Size/Resolution palette to the saved settings. |
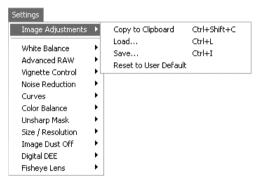
### 🔍 The Settings Menu

The **Size/Resolution** Settings menu can also be displayed by selecting **Size/Resolution** from the **Settings** menu.

## Saving and Loading Image Adjustment Settings

Image adjustment settings for all tool palettes (including the status of the Apply button for each palette) can be copied to the clipboard and saved in combined settings file. When the combined settings are pasted or read into the Nikon Capture 4 Editor, they will apply to all palettes simultaneously. These operations are performed using the commands in the **Settings** > **Image Adjustments** menu, which also contains an option for restoring all tool palettes to default settings.

| Option | Description |
|---|---|
| **Copy to Clipboard** | All image adjustment settings for the image in the active window are copied to the clipboard. You can paste them into the tool palettes for another window by selecting **Paste** from the **Edit** menu when the window is active. |
| **Load…** | Select this item to load settings previously saved using the **Save…** option (see below). A dialog will be displayed where you can navigate to the drive (volume) and directory containing the desired settings file (only files with the extension ".set" will be displayed). The settings in the Nikon Capture 4 Editor tool palettes will instantly revert to the saved settings. |
| **Save…** | Select this item to save settings to a named file. These settings can later be recalled using the **Load…** option. Choosing **Save…** displays a dialog where you can choose a destination and file name for the current settings. If this file is later selected for batch processing, images will be processed according to the settings in the file (🗊 201, 226). Combination settings files are saved with the extension ".set". |
| **Reset to User Default** | Select this option to restore the default settings selected for **"User default" image adjustments** in the General tab of the Nikon Capture 4 Editor Preferences dialog (🗊 207). In the case of the default settings file ("Neutral.set"), RAW images taken with the D1x will be scaled to 100% (4,016×2,616 pixels). |
| Recent files | Recent image adjustment settings files (up to four) are listed at the end of the settings menu. Selecting a file from the list restores the saved settings. |

## Saving Images

Nikon Capture supports a variety of file formats. Images displayed in Nikon Capture can be saved in a file format that suits the end in view. Hints for choosing a file format may be found on the pages that follow.

### Choosing a File Type

Nikon Capture 4 supports the following file types when saving images:

| File type | Compression | Extension |
|---|---|---|
| NEF (Nikon Electronic Image Format) | Uncompressed | .NEF |
| | Compressed | |
| 16-bit TIFF (RGB) | Uncompressed | .TIF |
| 8-bit TIFF (RGB) | | |
| TIFF (CMYK) | | |
| JPEG | Compressed | .JPG |

#### *Nikon Electronic Image Format (NEF)*

All images, including those taken at an image quality setting of RAW, can be saved in Nikon Electronic Image Format (NEF). NEF images created in Nikon Capture 4 can only be opened in Nikon View 6 or Nikon Capture 4, or in Adobe Photoshop 5.0 or later (Photoshop LE excluded) using the Nikon NEF filter supplied with Nikon View 6. Photographs recorded at an image quality setting of uncompressed NEF (RAW) can be compressed when saved in NEF format (compressed RAW images are automatically saved in compressed NEF format, and can not be saved in uncompressed NEF format).

Images saved in NEF format maintain the high quality of the original photograph; adjustments to settings are not applied to the original image data, but are instead saved separately in the same file. NEF images can later be opened in Nikon Capture and saved again in a format that can be opened in other applications. As changes to settings are only applied to the original image data when the image is saved in another format, this minimizes any loss of image quality that may be produced when the image is edited. Save images in NEF whenever you are unsure of how they will be used or when you want to process the original image in a number of different ways.

#### *TIFF*

Use TIFF when saving images for high-quality output or publishing. Although the lack of compression will result in larger files, image quality will be maintained at a high level. TIFF also preserves the ICC profile and caption information. This format is supported by a wide variety of applications on a variety of platforms.
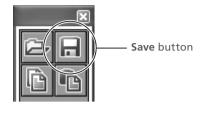
#### *JPEG*

This file type is adequate for images that will be output at low resolution or distributed in electronic form. Compression allows more images to be saved in the same amount of disk space while preserving the ICC profile and caption information. Note, however, that JPEG compression results in loss of image information that can not afterwards be restored. Save files at the lowest compression ratio possible; if necessary, they can always be saved again at a lower compression ratio.

**Options for Saving Image Files**

Nikon Capture offers two options for saving files: **Save** and **Save as…**.  The **Save** option saves the image in the same location as the original without changing the file name or format.  The **Save as…** option lets you choose a location, file name, and format.
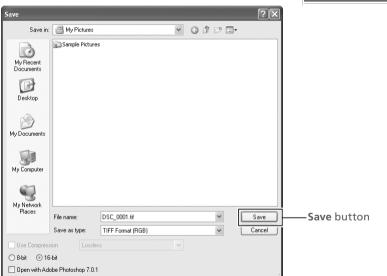
*Using the "Save" Command*

To save changes to an image without creating a new file, click the 🖫 button or select **Save** from the **File** menu.  The existing file will be overwritten.  If the image is in JPEG format, a dialog will be displayed where the compression ratio can be selected from "Highest Compression Ratio," "Good Compression Ratio," "Good Balance," "Good Quality," and "Excellent Quality."

**Save** button

*Using the "Save as…" Command*

1 Select **Save As…** from the **File** menu
The standard Save dialog for your operating system will be displayed.

| File | |
|---|---|
| Open… | Ctrl+O |
| Close | |
| Save | Ctrl+S |
| Save As… | Ctrl+Shift+S |

**Save** button

🖉 **Images Saved in Nikon Capture 4**
Images saved in Nikon Capture 4 can not be viewed on a camera.

🔍 **The 🖫 Button**
Clicking the 🖫 button saves any changes to the current file, overwriting the original image.  The Save dialog is not displayed.

2 Choose a location
Navigate to the desired drive (volume) and folder.

3 Choose a file type
Choose a file type (file format) from the pop-up menu. See "Choosing a File Type" (<img> 196) for more information.

4 Adjust compression settings
If NEF is chosen in Step 3 when saving uncompressed RAW images, compression can be turned on by selecting **Use Compression**. Uncompressed RAW images saved at this setting will be compressed using a lossless compression algorithm. This check box is automatically enabled when a compressed RAW image is saved. Compressed RAW images can not be saved in uncompressed format.

**Use Compression** is automatically selected when images are saved in JPEG format. The compression ratio can be selected from "Highest Compression Ratio," "Good Compression Ratio," "Good Balance," "Good Quality," and "Excellent Quality."

5 Enter a name for the file
The default file name appears in the **File name** text box. A new file name can be entered if desired.

6 Click **Save**
Click **Save** to save the file under the specified name.

✔ **File Naming Conventions**
**Windows**: *In environments that do not support long file names*, the maximum length is eight characters; file names may not contain spaces, quotes, or any of the following characters: "\\" "/" ":" "." ";" "*" "?" "<" ">" and "|".

*Where long file names are supported*, the maximum length is 255 characters; file names may not contain quotes or any of the following characters: "\\" "/" ":" "." ";" "*" "?" "<" ">" and "|".

**Macintosh**: The maximum length for Macintosh file names is thirty-one characters. Colons (":") are not allowed.

✐ **NEF**
NEF files created with Nikon Capture 4 can not be opened in earlier versions of Nikon Capture. Nikon Capture 4 can however be used to open NEF images created with earlier versions of Nikon Capture.

✐ **JPEG**
Image quality will be affected if the same image is saved multiple times in JPEG format.

🔍 **Error Messages**
If an invalid file name or other error is identified in the Save dialog, a message will be displayed. Adjust settings as directed.

## Save Options
In addition to the settings listed above, the following options are available in the Save dialog:

Bit depth

Open in External Application

### Bit depth
Gives the bit depth (the number of bits of color information per channel for each pixel in the image) at which the image will be saved. The 16-bit option is only available if the selected file type is TIFF format (RGB) and the original image has a bit depth of over eight bits.

### Open in
If **Open saved images in** is selected in the General tab of the Preferences dialog, the name of the selected application (e.g., Adobe Photoshop 7.0) will be displayed. This option can not be selected if the chosen file format is NEF. If this check box is on, the image will automatically be opened in the selected application after being saved to disk.
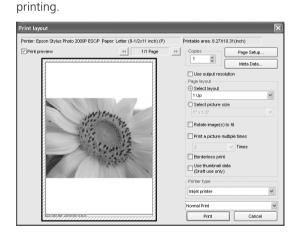
## Printing Images

Images can be printed directly from Nikon Capture 4 Editor to test the effects of image adjustments. For more information on printing images, see "Nikon Browser: Printing Images" (👁 71).

1 **Open the image**
Be sure the image you wish to print is open in Nikon Capture 4 Editor.

2 **Choose a print setup**
Choose **Print Setup** from the **File** menu to display the page setup dialog for your printer and operating system. Adjust settings as desired and click **OK**.

3 **Print the image**
Selecting **Print…** from the **File** menu displays the Print Layout dialog, where you can select the layout and the number of copies to be printed. Click **Print** to begin printing.

---

✏ **Setting up Your Printer**
Note that the printer must be properly connected and the printer drivers correctly installed.

✏ **Printing with Color Management**
The printer profile can be selected in the Color Management tab of the Preferences dialog in Nikon Browser (👁 112,114), Nikon Viewer, Nikon Capture 4 Editor (👁 211,213), or Nikon Capture 4 Camera Control.
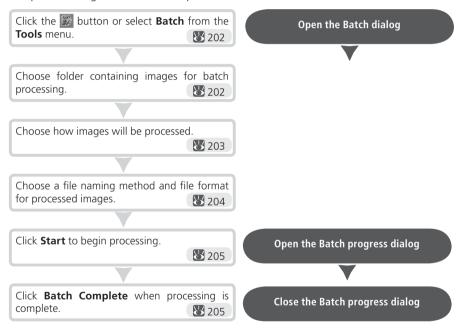
🔍 **"Use output resolution"**
To print images at the size and resolution selected in the Nikon Capture 4 Editor Size/Resolution palette, select **Use output resolution**.

## Batch Processing

Nikon Capture 4 supports automated processing of multiple images (batch processing). Batch processing is used to automate image processing, capturing images, applying pre-de-fined image adjustment settings, and saving images to disk automatically. It is most effec-tive when applied to a series of photographs taken under identical conditions. Images are processed in the order taken.

When using batch processing, we recommend that you open one of the images to be pro-cessed in Nikon Capture 4 and edit image adjustment settings to produce the desired result. You can then save these settings in a joint settings file using the **Save…** option in the **Set-tings**> **Image Adjustment** menu (🔖 195). By selecting the resulting settings file in the Batch dialog, you can perform the same adjustments on all the images processed. In studio settings where a variety of shooting conditions can be replicated with ease, you can create separate settings files for commonly encountered conditions and use these settings to auto-mate repetitive image enhancement operations.

Click the 📄 button or select **Batch** from the **Tools** menu. 🔖 202

**Open the Batch dialog**

Choose folder containing images for batch processing. 🔖 202

Choose how images will be processed. 🔖 203

Choose a file naming method and file format for processed images. 🔖 204

Click **Start** to begin processing. 🔖 205

**Open the Batch progress dialog**

Click **Batch Complete** when processing is complete. 🔖 205

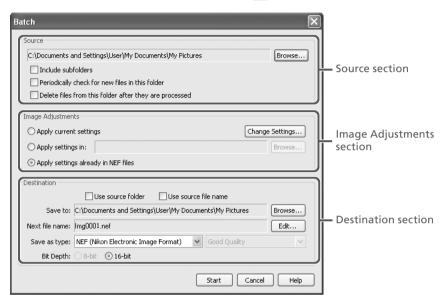**Close the Batch progress dialog**

### 🔍 Before Using Batch Processing

Batch processing is used to perform the operations specified in the Image Adjustments section of the Batch dialog on all files in a selected folder. To ensure that desired results are achieved, we recommend processing a test image before beginning batch processing. Batch processing can not be used to adjust settings separately for each image; instead, the images must be opened one at a time in the order taken and separate adjustments made manually for each image.

　
This section describes how to use batch processing with files that have already been saved to the computer's hard disk. For information on batch processing of images captured directly from the camera, see "Nikon Capture 4 Camera Control" (📖 226).

**1** Display the Batch dialog
Select **Batch** from the **Tools** menu or click the 📑 button to display the Batch dialog.

| | |
|---|---|
| **Batch** ☒ | |
| ┌─ Source ─────────────────────────────────── | |
| C:\Documents and Settings\User\My Documents\My Pictures  [Browse...] | ─── Source section |
| ☐ Include subfolders | |
| ☐ Periodically check for new files in this folder | |
| ☐ Delete files from this folder after they are processed | |
| ┌─ Image Adjustments ───────────────────────── | |
| ○ Apply current settings  [Change Settings...] | ─── Image Adjustments |
| ○ Apply settings in: _____  [Browse...] | section |
| ⦿ Apply settings already in NEF files | |
| ┌─ Destination ─────────────────────────────── | |
| ☐ Use source folder   ☐ Use source file name | |
| Save to: C:\Documents and Settings\User\My Documents\My Pictures  [Browse...] | ─── Destination section |
| Next file name: Img0001.nef  [Edit...] | |
| Save as type: NEF (Nikon Electronic Image Format) ▾  Good Quality ▾ | |
| Bit Depth: ○ 8-bit  ⦿ 16-bit | |
| [Start]  [Cancel]  [Help] | |

**2** Choose a source folder
In the Source section, choose the folder containing the images to be processed. The current folder is listed in the text box. To choose a new folder, click the **Browse** button and navigate to the desired location.

Include subfolders
Check this option to process all images in any sub-folders under the specified folder. Folders with the same names will be created in the destination folder.

Periodically check for new files in this folder
When this option is checked, Nikon Capture 4 will check for new images in the specified folder once every ten seconds.

Delete files from this folder after they are processed
Check this option to delete image files from the selected folder after processing. A warning dialog will be displayed before batch processing begins.

🔍 **Selecting Folders for Batch Processing**
For improved efficiency, create two folders that are used only for batch processing. The images to be processed can be copied to one of these folders, which might be named "Batch In." If the **Delete files from this folder after they are processed** option is checked, these files will automatically be deleted from the "Batch In" folder after processing, allowing you to copy more files to the folder without worrying about the files already there (be sure to leave a copy of any images you would like to keep in their original state in another folder).

3 Specify how images will be processed
In the Image Adjustments section, specify the operations to be performed on each image.

### Apply current settings
Select this option to process the images in the selected folder using the settings currently in effect in Nikon Capture 4 Editor.

To change settings before beginning batch processing, click **Change Settings…**. A dialog will be displayed where an image can be opened to assist with the process of adjusting settings. Click **No** to adjust settings without opening an image.

To open the first image in the source folder, click **Load First Image**. To select another image from the source folder, click **Choose Image…**. The dialog shown at right will be displayed; select an image and click **OK**.

A pause dialog will be displayed; adjust settings as desired and then click **Resume Batch** to return to the batch processing dialog.

### Apply settings in
Select this option to process the images in the selected folder using joint settings created using the **Save…** option in the **Settings** > **Image Adjustment** menu (🔲 195). When this option is selected, a joint settings file can be selected by clicking the **Browse** button to its right.

### Apply settings already in NEF files
Check this option to apply settings previously saved with NEF files. If this item is not checked, the saved settings will be replacing with the settings chosen in the Image Adjustments section.

🔖 **Orientation**
Images processed using the batch option are saved in their original orientation. When **Apply current settings** is selected, images will not be rotated or flipped, regardless of whether flips or rotations have been applied to the image in the active image window. If batch processing is performed on images that have been flipped or rotated in Nikon Browser, these changes in orientation will be preserved when the image is saved.

🔖 **Existing Image Adjustment Settings**
If the **Apply settings already in NEF files** option is not checked, any changes to settings stored with files saved in NEF format will be ignored, and the settings in the selected settings file applied. If you have processed a series of NEF images separately and want to save them all as sixteen-bit TIFF, you can check this option and use batch processing to save all the images to a single folder in sixteen-bit TIFF format.

# 4 Choose a destination for the processed images
In the Destination section, choose options for saving the processed images.

### Use source folder
When this option is selected, processed images will be saved to the same folder as the original.
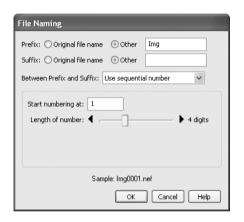
### Use source file name
When this option is selected, processed images will be saved under the same name and in the same location as the original images, although the file extension will change if the chosen file format differs from the original.

### Save to
This text box shows the folder to which the images will be saved after processing. To choose a new folder, click the **Browse...** button to the right of the text box and navigate to the desired location. This option is not available when **Use source folder** is selected. A folder with the same name will be created in the destination folder.

### Next file name
This text box shows a sample of the file names that will be used when saving the images after processing. To choose a new file name, click the **Edit...** button. The File Naming dialog will be displayed. For more information, see "Nikon Transfer" (📷 27).

### Save as type
Choose the file format that will be used to save the processed images. The following formats are available: **Use source file type**, **NEF**, **TIFF (RGB)**, **TIFF (CMYK)**, and **JPEG**. When NEF is selected, compression can be chosen from a pull-down menu. When JPEG is selected, the compression ratio can be chosen from "Highest Compression Ratio," "Good Compression Ratio," "Good Balance," "Good Quality," and "Excellent Quality." For more information on the options available, see "Saving Images" (📷 196).

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### ✔ File Naming Conventions
**Windows**: *In environments that do not support long file names*, the maximum length is eight characters; file names may not contain spaces, quotes, or any of the following characters: "\\" "/" ":" "." "," "*" "?" "<" ">" and "|".

*Where long file names are supported*, the maximum length is 255 characters; file names may not contain quotes or any of the following characters: "\\" "/" ":" "." "," "*" "?" "<" ">" and "|".
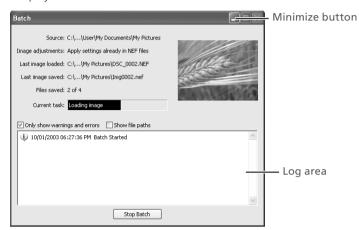
**Macintosh**: The maximum length for Macintosh file names is thirty-one characters. Colons (":") are not allowed.

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Bit Depth
Gives the bit depth (the number of bits of color information per channel for each pixel in the image) at which the image will be saved. The 16-bit option is only available if the selected file type is TIFF format (RGB) and the original image has a bit depth of over eight bits.

5 Begin processing
Click **Start** to put the selected settings into effect and begin processing. A batch progress dialog will be displayed.



Minimize button

Log area

Stop Batch
Click this button to stop batch processing before all images have been processed.

Only show warnings and errors
Check this option to display only warnings and errors in the log area. If this option is not checked, the log will also show the names and locations of the original images, captured photographs, and processed images.

Show file paths
Select this option to show the source and destination file paths. File paths are not displayed if **Only show warnings and errors** is checked.

6 Exit the batch processing dialog
When batch processing is complete, the **Stop Batch** button will change to **Batch Complete**. Click **Batch Complete** to exit the batch processing dialog.

✎ **The Log Area**
If an error occurs during processing, a description will be displayed in the log area of the batch dialog.

🔍 **Error Messages**
If an invalid file name or other error is identified in the batch processing dialog, a message will be displayed. Return to the batch processing dialog and adjust settings as directed in the message.

🔍 **The Minimize Button (Windows/Mac OS X)**
Clicking the minimize button in the batch processing dialog minimizes Nikon Capture 4 Editor.

# Nikon Capture 4 Editor Preferences

*Fine-Tuning Nikon Capture 4 Editor*

To view the Preferences dialog, select **Options…** from the **Tools** menu (Windows) or select **Preferences…** from the application menu (Mac OS X) or **Edit** menu (Mac OS 9).

|            |            |            |
| :--------: | :--------: | :--------: |
| **Windows** | **Mac OS 9** | **Mac OS X** |

The Preferences dialog contains the following five tabs:

| Tab | Description | 👁 |
| :---: | :--- | :---: |
| General | Specify the default image enhancement options that will apply to new images. | 207 |
| Temporary Files | Specify the location of the folders used for temporary storage. | 209 |
| Advanced Color | Set the defaults for the white and black points in the Curves window. | 210 |
| Grid Lines | Specify the spacing and color of the grid displayed in image windows. | 211 |
| Color Management | Select the color profiles used by the Nikon Color Management System (CMS). | 211 213 |

After making changes to preferences, click **OK** to save changes and return to the Nikon Capture 4 Editor window. Click **Cancel** to cancel any changes to settings and return to the Nikon Capture 4 Editor window.

**Viewing Preferences**

To view settings in any of the five panels, click the appropriate tab.

Tab

## The General Tab

The General tab contains the following items:



Windows                                    Macintosh

### "User Default" image adjustments
Choose the combined settings (".set") file that will apply when **Reset to User Default** is selected from the **Settings**>**Image Adjustments** menu (👁 195). The factory default settings file ("Neutral.set") produces a neutral, unedited image.

### Open saved image with
To specify the application used to open saved images, click the **Browse…** button and navigate to the desired application. This setting has no effect on the 👁 ("Open in Photoshop") button in the Quick Tools palette (👁 137).

### Save large previews for NEF files
Image files normally include an embedded preview 570 pixels on its longest size. If this option is checked, images saved in NEF will include a preview 1,600 pixels on its longest side, allowing NEF images over 1,600 pixels long to display more quickly in Nikon Viewer.

### Hide Tool Palettes when the application is not active (Windows only)
Select this option to hide the tool palettes and Quick Tool palette when another application is activated and brought to the front.

### Show full path in the image window title bar (Windows only)
Select this option to display the full paths and file names of the images opened in image windows.

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📝 **Large Previews for NEF Files**

Selecting the **Save large previews for NEF files** option increases file size by about 1 MB, slightly increasing the time needed to save images.

*Use this monitor for new images* (Macintosh only)
In a multiple display environment, select the monitor that will be used to display images opened in Nikon Capture 4 Editor. This option is not available when only one monitor is connected.

*Initial image window size* (Macintosh only)
Choose the size at which images will be opened from one-third screen width, one-half screen width, and two-thirds screen width.

*"Open with Photoshop" Quick Tools button*
Choose whether images are transferred to Photoshop eight bits at a time (**Always transfers 8-bit data**) or sixteen bits at a time (**Transfers 16-bit data when possible**) when the 🖼 button in the Quick Tools palette is clicked to open an image in Photoshop (🛠 137). If sixteen-bit transfer is not possible when **Transfers 16-bit data when possible** is selected, images will be transferred eight bits at a time.

*File format for Save As*
Choose the default file format for images saved using the **Save As...** option (🛠 197). Choose from **Same as original file** (each image will be saved in its current format), **Previous file format** (images will be saved in the last format selected), NEF, JPEG, TIFF (RGB), and TIFF (CMYK).

*By default, a D1X RAW file will be*
This option controls the default size for RAW images taken with the D1x. Choose **10MP (4016×2616)** or **6MP (3008×1960)**.

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✐ **Opening Files with Photoshop (Mac OS 9)**
A temporary file is created each time an image is opened in Photoshop. These files are normally deleted when the computer restarts. In Mac OS 9, however, the files are locked and cannot be deleted; instead, they are moved to the Trash. To delete files, select **Empty Trash** from the **Special** menu in the Finder while pressing the option key.

## The Temporary Files Tab

The Temporary Files tab offers the following option:

### Folder for temporary data

Specify the folder or volume in which temporary data, such as image cache data, will be stored. The default folder for Windows is the "TEMP" folder in the Windows directory, while the default volume for the Macintosh is the start-up disk. To choose a different folder in the Windows version of the program, click the **Browse…** button and navigate to the desired location. In the Macintosh version, a new volume can be chosen from the pop-up menu.



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🔍 **The Temporary Files Tab**

Changes to settings in the Temporary Files tab also apply to Nikon Browser, Nikon Viewer and Nikon Capture 4 Camera Control. Nikon Capture 4 must be restarted before changes to settings will take effect.

## The Advanced Color Tab
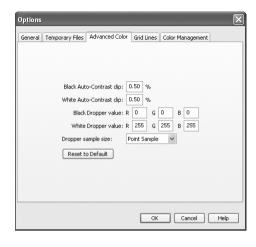
The Advanced Color tab contains the following items:

*Black Auto-Contrast clip*
By default, the black point is set to a value that excludes 0.5% of the darkest pixels in the crop. This produces an optimal dynamic range, with minimal loss of detail in shadows. To preserve detail at the expense of dynamic range, choose a lower value (choose 0 to set the black point to the darkest pixel in the crop). To increase dynamic range at the expense of detail, choose a higher value.

*White Auto-Contrast clip*
By default, the white point is set to a value that excludes 0.5% of the brightest pixels in the crop. This produces an optimal dynamic range, with minimal loss of detail in highlights. To preserve detail at the expense of dynamic range, choose a lower value (choose 0 to set the white point to the brightest pixel in the crop). To increase dynamic range at the expense of detail, choose a higher value.

*Black Dropper value/White Dropper value*
Controls the default output values for white point and black point. Output for each channel can be set to a value between zero and 255; these settings can also be adjusted in the Curves window. By default, output levels for the white point are 255 for each channel, which displays as white on most computer monitors. The defaults for the black point are 0 for each channel, which displays as black.

*Dropper sample size*
This setting determines the size of the area sampled with the eyedropper cursor in the White Balance and Curves palettes. You can select a sample sizes of **Point Sample** (the default setting), **3 × 3 Average**, and **5 × 5 Average**. When the sample size is set to 3 × 3 or 5 × 5, the average for the pixels sampled is used. Choosing a large sample size reduces precision, but also minimizes the effects of noise; choosing a small sample size has the opposite effect.

*Reset to Default*
Click this button to restore settings in the Advanced Color tab to their default values.

## The Grid Lines Tab
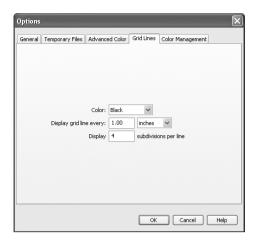
The Grid Lines tab controls the color and spacing of the non-printing grid lines over-laid on an image when **Show Grid Lines** is selected from the **Image** menu.

*Color*
The color of the grid lines can be selected from white, light gray, dark gray, black, red, green, blue, cyan, magenta, and yellow.

*Display grid line every*
Enter a value for grid spacing in the text box. The units for the grid can be selected from the pop-up menu to the right of the text box. The options available are pixels, inches, millimeters, centimeters, picas, and points; at settings other than pixels grid spacing can be entered up to two decimal points.

*Display n subdivisions per line*
The number of subdivisions into which each grid cell will be divided. The main grid is dis-played as solid lines of the color specified using the Color option, the subgrid as broken lines of the same color.
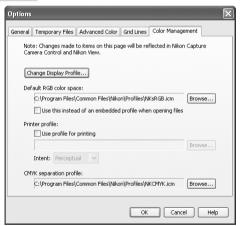
## The Color Management Tab (Windows)

The Color Management tab is where you specify the color management profiles used for displaying images on your monitor, ed-iting and saving RGB images, and saving and printing CMYK images.

*Change Display Profile*
To choose a display profile, click **Change Display Profile…**. The Windows "Display Properties" dialog will be displayed; open the Settings tab and click **Advanced…** to open the display adapter properties dialog. To select a display profile, open the Color Management tab and click **Add**.

**Default Display Profile**
The default Windows display profile is "NKMonitor_win.icm." This profile is equivalent to sRGB.

### Default RGB color space
The output color-space profile used when working with RGB images is displayed here. Click **Browse…** to choose a new default RGB profile. If **Use this instead of an embedded profile when opening files** is checked, this RGB color space profile will be used for all images. If it is not checked, the profile embedded in each image will be used.

### Printer profile
Specifies the printer profile to be used when printing images.

#### Use profile for printing
If this option is checked, you can choose a profile for printing by clicking the **Browse…** button. The selected profile will appear in the adjacent text box. If this option is not checked, the default RGB color space will be used.

#### Intent
If you have chosen to use a printer profile, the type of matching to be performed can be selected from **Relative** and **Perceptual**. (Depending on the profile, changing the matching method may produce no change in output. This option is not supported with some profiles; consult the manufacturer for details.)

#### Relative
Colors not in the gamut of the selected printer profile will be printed using the closest colors available. Other colors are not affected.

#### Perceptual
If the image contains colors not in the gamut of the selected printer profile, all colors in the image will be compressed to fit the gamut.

### CMYK separation profile
Lists the profile used to convert RGB images to CMYK when saving images in CMYK-TIFF format. To choose a different profile, click the **Browse…** button.

#### Multiple Displays (Windows)
In a multiple display environment, choose a single profile suited to all displays.

#### Supported Color Profiles
Nikon Capture 4 supports only ICC (International Color Consortium) monitor and CMYK profiles. Particular care should be exercised when choosing a CMYK profile, as the profile supplied by the manufacturer of your output device may not be an ICC profile.

#### The Color Management Tab
Changes to settings in the Color Management tab also apply to Nikon Browser, Nikon Viewer, and Nikon Capture 4 Camera Control.

#### RGB Color-Space Profiles
See Appendix A (📖 264) for more information on the default color-space profiles.

#### The Information Palette
The color-space profile for the image in the active window is displayed in the Information palette (📖 146).

## The Color Management Tab (Macintosh)

The Macintosh version displays the profile names selected in the ColorSync control panel (Mac OS 9) or in System Preferences (Mac OS X).



### ColorSync Default Profiles for Documents

The default color-space profiles are displayed in this area. Clicking the **Open ColorSync** button opens the ColorSync dialog to a panel where you can choose the default profiles for the RGB and CMYK color spaces .

#### RGB Default
Lists the output ICC color-space profile used when working with RGB images. If **Use RGB Default instead of an embedded profile when opening files** is checked, this RGB color space profile will be used for all images. If it is not checked, the profile embedded in each image will be used.

#### CMYK Default
Lists the profile used to convert RGB images to CMYK when saving images in CMYK-TIFF format.

#### Open ColorSync
Opens the ColorSync control panel (OS 9) or System Preferences (OS X), where you can choose the color profiles used.

*Device Profiles*
Lists the default color-space profiles for monitors and printers.

*Change Display Profile*
If the **Change Display Profile…** button appears next to this item, you can click the button to open the Monitor control panel (Mac OS 9) or the Displays section of the System Preferences dialog (Mac OS X). Click the **Color** button (Mac OS 9) or open the Color panel (Mac OS X) to choose a display profile.

*Use profile for printing*
If this option is checked, the profile listed in the **Printer** text box will be used when printing images. Note that CMYK profiles can not be used in Nikon Capture 4; if a CMYK profile is selected, the status of the **Use profile for printing** check-box can not be changed. If **Use profile for printing** is not selected, images will be printed using the default RGB profile.

*Intent*
If you have chosen to use a printer profile, the type of matching to be performed can be selected from **Relative** and **Perceptual**. (Depending on the profile, changing the matching method may produce no change in output. This option is not supported with some profiles; consult the manufacturer for details.)

Relative
Colors not in the gamut of the selected printer profile will be printed using the closest colors available. Other colors are not affected.

Perceptual
If the image contains colors not in the gamut of the selected printer profile, all colors in the image will be compressed to fit the gamut.

🔍 **Multiple Displays (Macintosh)**
Nikon Capture 4 will identify and list the profiles for all monitors in an extended desktop display, allowing you to choose a separate profile for each monitor.

🔍 **The Color Management Tab**
Changes to settings in the Color Management tab also apply to Nikon Browser, Nikon Viewer, and Nikon Capture 4 Camera Control.

# Nikon Capture 4 Camera Control

*Capturing Photographs*

Using the Camera Control component of Nikon Capture 4, you can control almost all aspects of camera operation remotely from your computer. If Camera Control is running when a D2H or D100 camera is connected, or a D1-series camera is connected and set to PC mode, pictures taken with the camera will be stored on your computer hard disk, not the camera memory card. The camera can be operated either directly or using the controls in the Camera Control window. Camera settings are displayed in Camera Control.

This chapter describes the Camera Control and Custom Settings windows. For more information on camera settings, see the documentation provided with your camera.

### The Camera Control Window
Read this section for a description of the controls in the Nikon Capture 4 Camera Control window, as well as for information on launching and closing the Camera Control window, capturing photographs to disk, processing photographs as they are captured, time lapse photography, and custom settings.

### Nikon Capture 4 Camera Control Preferences
This section details the options available in the Camera Control Preferences dialog.
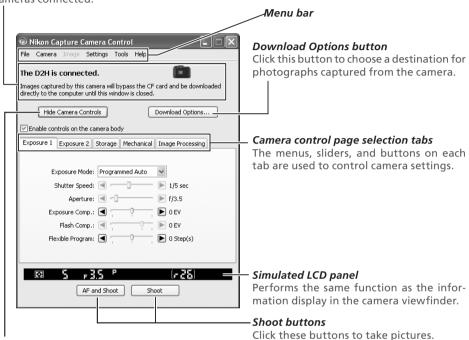
# The Camera Control Window

*Getting to Know Nikon Capture 4 Camera Control*

The main parts of the Camera Control window are identified below. For more information, see the "Nikon Capture 4 Camera Control Window" (📖 233).

**Connection status (📖 233)**
Shows the status and name of any cameras connected.

**Menu bar**

**Download Options button**
Click this button to choose a destination for photographs captured from the camera.

**Camera control page selection tabs**
The menus, sliders, and buttons on each tab are used to control camera settings.

**Simulated LCD panel**
Performs the same function as the information display in the camera viewfinder.

**Shoot buttons**
Click these buttons to take pictures.

**Hide Camera Controls button**
Click this button to hide the camera control panels in the Nikon Capture Camera Control window.

### ✎ Camera Control
Changes made to settings in the Nikon Capture 4 Camera Control window only apply to photographs taken after the changes are made, not to photographs that have already been taken.

The controls in the Nikon Capture 4 Camera Control window vary with the type of camera connected. More information on camera settings may be found in the documentation provided with your camera.

### ✎ Camera Control for D100 Cameras (Macintosh)
Before using Nikon Capture 4 Camera Control with a D100 digital camera under Mac OS 9 or Mac OS X, confirm that the camera firmware is version 2.00 or later. Users of earlier versions will need to upgrade the camera firmware before using Nikon Capture 4 Camera Control. Contact a Nikon-authorized service representative for information on firmware upgrades.

### ✎ Illustrations
Save where otherwise noted, the illustrations in this section show the dialogs displayed when the D2H is connected.

*216*

If no camera is connected when Nikon Capture 4 Camera Control is launched, a warning will be displayed.

Click **OK** to close the warning and display the following window. Preferences can be adjusted using the options in the menu bar. For information on connecting the camera, see the *Nikon Capture 4 Install Guide*.

***Download Options button***
Click this button to choose a destination for photographs captured from the camera.

✍ **Before Starting Nikon Capture 4 Camera Control (D2H/D100 Cameras)**
Users of D2H and D100 cameras will need to ensure that the appropriate setting is chosen for **USB** option in the camera setup menu before connecting the camera to a computer running Nikon Capture 4 Camera Control. Choose a USB setting according to your computer's operating system:

| Operating system | D2H | D100 |
|---|---|---|
| Windows XP Home Edition, Windows XP Professional | Choose **PTP**. | Choose **Mass Storage** or **PTP**. |
| Windows 2000, Windows Me, Windows 98 SE | Choose **PTP**. | Choose **Mass Storage**. |
| Mac OS | Choose **PTP**. | Choose **PTP**. |

✍ **Windows XP Home Edition/Professional, Windows 2000 Professional, Mac OS X**
Installing, uninstalling, and using Nikon Capture 4 Camera Control under a multi-user operating system requires Administrator privileges. When using Nikon Capture 4 Camera control, log in as:

| Windows XP Home Edition/Professional | Computer administrator |
|---|---|
| **Windows 2000 Professional** | Administrators |
| **Mac OS X** | Admin |

## Starting Nikon Capture 4 Camera Control

Nikon Capture 4 Camera Control can be started by selecting **Show** (or **Launch**) **Nikon Camera Control** from the **Tools** menu in Nikon Browser, Nikon Viewer, or Nikon Capture 4 Editor, or by clicking the 🖼 button in the Nikon Capture 4 Editor Quick Tools palette.  You can also start Camera Control directly by selecting Nikon Capture 4 Camera Control from the **Start** menu (Windows) or double-clicking the application icon (Macintosh).

### Windows

1 Connect the camera
Connect the camera to your computer and turn the camera on.  If you are using a D1-series camera, choose "PC" as the operating mode.  If you are using a D100 camera, turn the function dial to P, S, A, or M.  Users of the D2H can select any mode other than M-ᴜᴘ (mirror up).

2 Close Nikon Transfer
If Nikon Transfer starts, click the **Close** button.

3 Start Nikon Capture 4 Camera Control
From the **Start** menu, select **All Programs** > **Nikon Capture 4** > **Nikon Capture 4 Camera Control** (Windows XP Home Edition/Windows XP Professional) or **Programs** > **Nikon Capture 4** > **Nikon Capture 4 Camera Control** (other Windows versions).
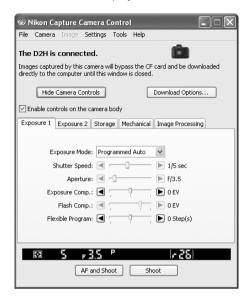


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📝 **Product Key**

If prompted to supply a product key when starting Nikon Capture 4 Editor or Nikon Capture 4 Camera Control, enter the product key for Nikon Capture 4.

📝 **Other Ways of Starting Camera Control**

Nikon Capture 4 Camera Control can be started by double-clicking the Nikon Capture 4 Camera Control icon (🔎) in the folder to which you installed Nikon Capture 4.

The Camera Control window will be displayed.

<hr>

📝 **Disconnecting the Camera**
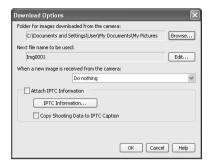For information on disconnecting the camera from the computer, see the documentation provided with your camera.

**Macintosh**

**1 Connect the camera**
Connect the camera to your computer and turn the camera on. If you are using a D1-series camera, choose "PC" as the operating mode. If you are using a D100 camera, turn the function dial to P, S, A, or M. Users of the D2H can select any mode other than M-ᴜᴘ (mirror up).

**2 Close Nikon Transfer**
If Nikon Transfer starts, click the **Close** button.

**3 Start Nikon Capture 4 Camera Control**
Double-click the Nikon Capture 4 Camera Control icon 🔵 in the folder to which you installed Nikon Capture 4.

The Camera Control window will be displayed.



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ℐ **Product Key**
If prompted to supply a product key when starting Nikon Capture 4 Editor or Nikon Capture 4 Camera Control, enter the product key for Nikon Capture 4.

ℐ **Other Ways of Starting Camera Control**
Nikon Capture 4 Camera Control can be started by double-clicking the Nikon Capture 4 Camera Control icon (🔵) in the folder to which you installed Nikon Capture 4 (Mac OS 9). If Nikon Capture 4 was registered in the Dock during installation, Mac OS X users will be able to start Nikon Capture 4 Camera Control by clicking the Nikon Capture 4 Camera Control icon (🔵) in the Dock.

## Exiting Nikon Capture 4 Camera Control

Be sure to exit Nikon Capture 4 Camera Control before disconnecting the camera.
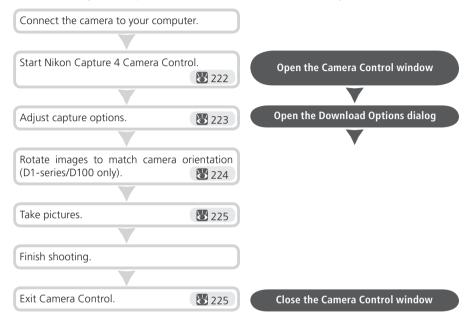
1 Exit Nikon Capture 4 Camera Control
To close the Nikon Capture 4 Camera Control window, open the **File** menu and choose **Exit** (Windows) or **Quit** (Mac OS 9). In Mac OS X, select **Quit Nikon Capture Control** from the application menu.

| File | File | Nikon Capture Control |
| Exit | Close ⌘W | About Nikon Capture Camera Control... |
| | Quit ⌘Q | Preferences... ⌘K |
| | | Services ▶ |
| | | Hide Nikon Capture Control ⌘H |
| | | Hide Others ⌥⌘H |
| | | Show All |
| | | Quit Nikon Capture Control ⌘Q |

Windows              Mac OS 9                    Mac OS X

2 Disconnect the camera
For information on disconnecting your camera from the computer, see the documentation provided with your camera.
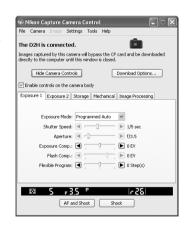
## Capturing Photographs to Disk

If Nikon Capture 4 Camera Control is running when a D2H or D100 camera is connected, or a D1-series camera is connected with the mode dial set to PC, pictures taken with the camera will be stored on your computer hard disk, not the camera memory card.

Connect the camera to your computer.

Start Nikon Capture 4 Camera Control.  ⏳ 222

**Open the Camera Control window**

Adjust capture options.  ⏳ 223

**Open the Download Options dialog**

Rotate images to match camera orientation (D1-series/D100 only).  ⏳ 224

Take pictures.  ⏳ 225

Finish shooting.

Exit Camera Control.  ⏳ 225

**Close the Camera Control window**

1 **Start Nikon Capture 4 Camera Control (⏳ 218)**
Connect the camera to your computer and turn the camera on. If you are using a D1-series camera, set the operating mode to PC.
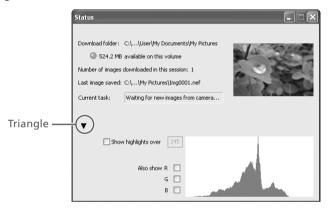
### ✎ Auto Image Rotation (D2H Only)

If **On** (the default setting) is selected for **Auto image rotation** in the camera setup menu, the D2H will detect camera orientation and automatically rotate photographs as they are taken (note that in continuous mode, the rotation applied to the first image in each burst applies to all images in the series, even if camera orientation is changed during shooting). If **Off** is selected, all images will be recorded in landscape orientation regardless of how the camera is held. The options in the Nikon Capture 4 Camera Control **Image** menu are not available when the D2H is connected.

2 Display the Download Options dialog
Click **Download Options** in the Camera Control window. The following dialog will be displayed.

3 Adjust capture options

**Folder for images downloaded from the camera**
Use this area to select the folder to which photographs will be downloaded as they are taken.

**Next file name to be used**
This area is used to specify how photographs captured from the camera will be named as they are saved to disk. To choose how files are named, click **Edit**. The dialog shown at right will be displayed. Using the sample file name as your guide, enter a prefix and suffix and choose the starting number and number of digits for automatic sequential file numbering.

✔ **File Naming Conventions**
**Windows**: *In environments that do not support long file names*, the maximum length is eight characters; file names may not contain spaces, quotes, or any of the following characters: "\\" "/" ":" "." ";" "*" "?" "<" ">" and "|".

*Where long file names are supported*, the maximum length is 255 characters; file names may not contain quotes or any of the following characters: "\\" "/" ":" "." ";" "*" "?" "<" ">" and "|".

**Macintosh**: The maximum length for Macintosh file names is thirty-one characters. Colons (":") are not allowed.

### When a new image is received from camera
Choose the application that will be used to display captured photographs.

#### *Do nothing*
Photographs are saved to the computer hard disk.

#### *View with Nikon Viewer*
After the image is saved to disk, Nikon Browser and Nikon Viewer will start automatically. The destination folder for captured images will be opened in Nikon Browser with the captured image selected, and the captured image will be displayed in Nikon Viewer.

#### *Show it with the Nikon View Browser*
After the image is saved to disk, Nikon Browser will start automatically. The destination folder for captured images will be opened in Nikon Browser with the captured image selected.

### Attach IPTC Information
Check this option to add IPTC information to captured images (📖 33) and enable the **Copy Shooting Data to IPTC Caption** option.

### IPTC Information…
Clicking this button displays a dialog where you can select the IPTC information, including keywords and captions, that will be added to images as they are captured. For more information, see "Nikon Transfer" (📖 33).

### Copy Shooting Data to IPTC Caption
Check this option to copy shooting data to the caption field of images as they are captured.

After adjusting the above options, click **OK** to exit the dialog and apply settings to subsequent photographs.

**4** Choose whether to rotate captured images (D1-series/D100 only)
The options in the Nikon Capture 4 Camera Control **Image** menu can be used to rotate captured images according to camera orientation. Use these options when taking photographs in tall ("portrait") orientation. Select an option once to enable it, again to disable it.

### Rotate all downloaded images by 90 degrees CCW
If this option is checked, images will be rotated 90° counterclockwise as they are saved.

### Rotate all downloaded images by 90 degrees CW
If this option is checked, images will be rotated 90° clockwise as they are saved.

🖉 **"View Captured Image Immediately"**
If **View captured image immediately** is not checked in the Nikon Browser **View** menu when **View with Nikon Viewer** or **Show it with the Nikon Browser** is selected, the destination folder must be opened manually using the "Transfer Destination" button. If **View captured image immediately** is not checked in the Nikon Viewer **View** menu when **View with Nikon Viewer** is selected, captured images can be displayed by clicking the "Next Image Selected" button (Macintosh only).

🖉 **Auto Image Rotation (D2H Only)**
If **On** (the default setting) is selected for **Auto image rotation** in the camera setup menu, the D2H will detect camera orientation and automatically rotate photographs as they are taken (note that in continuous mode, the rotation applied to the first image in each burst applies to all images in the series, even if camera orientation is changed during shooting). If **Off** is selected, all images will be recorded in landscape orientation regardless of how the camera is held. The options in the Nikon Capture 4 Camera Control **Image** menu are not available when the D2H is connected.

**5** Take pictures
Take pictures using the camera shutter-release button or the **AF and Shoot** or **Shoot** buttons in the Camera Control window. The Status dialog shown below will be displayed.



To display a histogram of the current image, click the triangle at the bottom of the Status dialog.



If the **Show highlights over** option is checked, any areas of the preview image with a brightness over the value entered in the neighboring text box will be indicated by a flashing border. To display histograms for the red (**R**), green (**G**), and blue (**B**) channels, put a check in the corresponding box.

If **View with Nikon Viewer** or **Show it with the Nikon Browser** is selected for **When a new image is received from the camera** in the Download Options dialog, photographs will be opened in Nikon Viewer or Nikon Browser as they are taken.
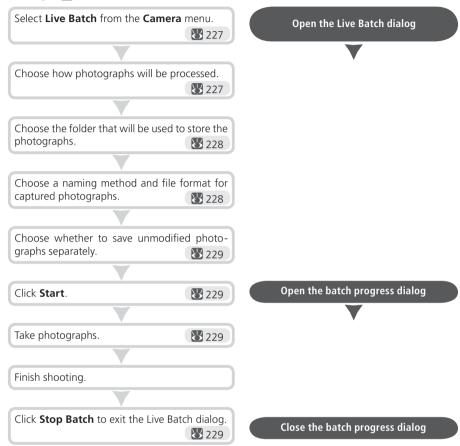
**6** Exit Nikon Capture 4 Camera Control
To exit Nikon Capture 4 Camera Control, click the close button in the title bar of the Nikon Capture Camera Control window.

**The Minimize Button (Windows/Mac OS X )**
Clicking the minimize button in the progress dialog minimizes Nikon Capture 4 Camera Control.

## Processing Photographs as They Are Captured

As photographs are captured, Nikon Capture 4 Camera Control can automatically process the images to reflect image adjustment settings in Nikon Capture 4 Editor. For information on performing batch processing on images that have already been saved to disk, see "Batch Processing" (🐰 201).
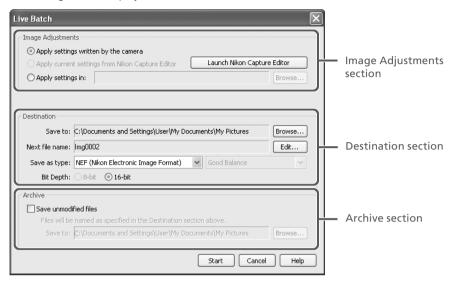
| | |
|---|---|
| Select **Live Batch** from the **Camera** menu. 🐰 227 | **Open the Live Batch dialog** |
| Choose how photographs will be processed. 🐰 227 | |
| Choose the folder that will be used to store the photographs. 🐰 228 | |
| Choose a naming method and file format for captured photographs. 🐰 228 | |
| Choose whether to save unmodified photographs separately. 🐰 229 | |
| Click **Start**. 🐰 229 | **Open the batch progress dialog** |
| Take photographs. 🐰 229 | |
| Finish shooting. | |
| Click **Stop Batch** to exit the Live Batch dialog. 🐰 229 | **Close the batch progress dialog** |

### 🔍 Live Batch Processing

Live batch processing is used to perform the operations specified in the Image Adjustments section of the Live Batch dialog on all images captured from the camera. To ensure that desired results are achieved, we recommend processing a test image before beginning batch processing. Batch processing can not be used to adjust settings separately for each image; instead, the images must be opened one at a time and separate adjustments made manually for each image.

### ✏️ Rotating Photographs as They Are Captured

To capture photographs in "tall" (portrait) orientation, select the appropriate option in the Nikon Capture 4 Camera Control **Image** menu (D1-series/D100 only; 🐰 224) or select **On** (the default setting) for **Auto image rotation** in the camera setup menu (D2H only; if **Off** is selected, all images will be recorded in landscape orientation, regardless of how the camera is held). The options in the **Image** menu are not available when the D2H is connected. Note that if **On** is selected for **Auto image rotation** when the D2H is in continuous mode, the rotation applied to the first image in each burst applies to all images in the series, even if camera orientation is changed during shooting.

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1 Display the Live Batch dialog
Select **Live Batch** from the **Camera** menu in Nikon Capture 4 Camera Control. The Live Batch dialog will be displayed.



Image Adjustments section

Destination section

Archive section

2 Specify how captured images will be processed
In the Image Adjustments section, specify the operations to be performed on each image.

Apply settings written by the camera
Select this option to save images exactly as captured from the camera, without applying any of the modifications in the Nikon Capture 4 Editor tool palettes. The image will be saved in the working (output) color space selected in the Color Management tab of the Preferences dialog (🔊 211, 213).

Apply current settings from Nikon Capture Editor
Select this option to process images using the settings currently in effect in Nikon Capture 4 Editor. This option is only available when Nikon Capture 4 Editor is running.

To open Nikon Capture 4 Editor and adjust settings, click the **Launch Nikon Capture Editor** button.

Apply settings in
Select this option to process the images using combination settings created using the **Save…** option in the Nikon Capture 4 Editor **Settings** > **Image Adjustment** menu (🔊 195). Click **Browse…** to select a combination settings file.

3 Choose a destination for captured images
In the Destination section, choose options for saving the processed images.
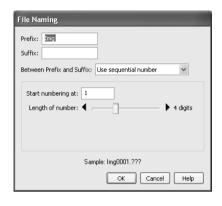
### Save to
This text box shows the folder to which the images will be saved after processing. To choose a new folder, click the **Browse…** button to the right of the text box and navigate to the desired location.

### Next file name
This text box shows a sample of the file names that will be used when saving the images after processing. To choose a new file name, click the **Edit…** button. The File Naming dialog will be displayed. For more information, see "Nikon Transfer" (⚡ 27).

**File Naming**

Prefix: Img

Suffix:

Between Prefix and Suffix: Use sequential number

Start numbering at: 1

Length of number: ◄ ———————— ► 4 digits

Sample: Img0001.???

OK    Cancel    Help

### Save as type
Choose the file format that will be used to save the processed images. The following formats are available: **Use source file type**, NEF, TIFF (RGB), TIFF (CMYK), and JPEG. Choose **Use source file type** to save captured images in the format used by the camera. To save images in uncompressed RAW format, set the camera to uncompressed NEF (RAW) and choose **Use source file type**. When NEF is selected, compression can be chosen from a pull-down menu. When JPEG is selected, the compression ratio can be chosen from "Highest Compression Ratio," "Good Compression Ratio," "Good Balance," "Good Quality," and "Excellent Quality." See "Saving Images" (⚡ 196) for more details.

### Bit depth
Gives the bit depth (the number of bits of color information per channel for each pixel in the image) at which the image will be saved. The 16-bit option is only available if the selected file type is TIFF format (RGB) and the original image has a bit depth of over eight bits.

#### ✔ File Naming Conventions
**Windows**: *In environments that do not support long file names*, the maximum length is eight characters; file names may not contain spaces, quotes, or any of the following characters: "\\" "/" ":" "." ";" "*" "?" "<" ">" and "|".

*Where long file names are supported*, the maximum length is 255 characters; file names may not contain quotes or any of the following characters: "\\" "/" ":" "." ";" "*" "?" "<" ">" and "|".

**Macintosh**: The maximum length for Macintosh file names is thirty-one characters. Colons (":") are not allowed.

#### 🔍 Error Messages
If an invalid file name or other error is identified in the Live Batch dialog, a message will be displayed. Return to the Live Batch dialog and adjust settings as directed in the message.

4 **Choose whether to save original photographs**
In the Archive section, choose whether to save unprocessed copies of the photographs captured from the camera.

**Save Unmodified Files**
Check this option to save both the original image and copies processed according the options selected in the Image Adjustments section.

**Save to**
This text box shows the folder to which unprocessed images will be saved. To choose a new folder, click the **Browse…** button to the right of the text box and navigate to the desired location.

5 **Click Start**
Click **Start** to put the selected settings into effect. A progress dialog will be displayed.



6 **Take photographs**
Take photographs using the camera shutter-release button.

7 **End batch processing**
Once you have finished taking photographs, click **Stop Batch** to end batch processing. If the Batch Task text box shows that images remain to be processed, a warning will be displayed. Click **Yes** to exit without saving unprocessed images, or **No** to process and save the images before returning to the Nikon Capture 4 Camera Control dialog.

**"Apply Settings Written by Camera" Versus "Save Unmodified Files"**
The **Apply settings written by camera** option saves images in the working (output) color space selected in the Color Management tab of the Preferences dialog ( 211, 213) . The working color space is not applied to images saved using the **Save Unmodified Files** option.

**The Minimize Button (Windows/Mac OS X)**
Clicking the minimize button in the progress dialog minimizes Nikon Capture 4 Camera Control.

**The Warning Button**
If an error occurs during shooting, a warning button will appear at the bottom of the Live Batch dialog. Clicking this button will display a message. End shooting and close the Live Batch dialog as directed. An error log will be displayed; click **OK** to close the log and return to the Camera Control window.

**Stop Batch**
The **Stop Batch** button can only be operated with the mouse.

## Time Lapse Photography

Using Nikon Capture, you can take a series of photographs automatically at a time interval you select.

Select **Time Lapse Photography…** from the **Camera** menu.  🐢 231
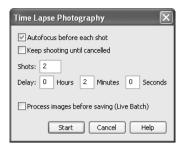
**Open the Time Lapse Photography dialog**

Choose whether to focus before each shot.  🐢 231

Choose the number of photographs to be taken.  🐢 231

Choose an interval setting.  🐢 231

Choose whether to save photographs automatically.  🐢 231

Click **Start** to begin time lapse photography.  🐢 231

**Open the time-lapse photography progress dialog**

Follow the progress of time lapse photography in the progress dialog.  🐢 232

Click **Shooting Complete** to exit the batch processing dialog.  🐢 232

**Close the time-lapse photography progress dialog**

1 Display the Time Lapse Photography dialog
Select **Time Lapse Photography…** from the **Camera** menu. The Time Lapse Photography dialog will be displayed.

| Time Lapse Photography | ☒ |
|---|---|
| ☑ Autofocus before each shot | |
| ☐ Keep shooting until cancelled | |
| Shots: `2` | |
| Delay: `0` Hours `2` Minutes `0` Seconds | |
| ☐ Process images before saving (Live Batch) | |
| [ Start ] [ Cancel ] [ Help ] | |

2 Adjust settings
Before shooting starts, adjust the following settings:

Autofocus before each shot
If this option is checked, the camera will perform an autofocus operation before each shot.

Keep shooting until cancelled
If this option is checked, the camera will continue to take photographs until you click **Stop Shooting** in the Time Lapse Photography dialog (🖑 232).

3 Specify the number of photographs to be taken
Use the **Shots** box to choose a number of photographs from 2 to 9,999. This option is not available when **Keep shooting until cancelled** is selected.

4 Choose an interval setting
The delay between shots can be set to any value between 00:00:01 (one second) and 99:59:59 (ninety-nine hours, fifty-nine minutes, and fifty-nine seconds).

5 Click **Start**
Click **Start**. To process images as they are taken, check the **Process images before saving (Live Batch)** option in the Time Lapse Photography dialog and click **Next**. The Live Batch dialog will be displayed; adjust settings and click **Start** to begin time lapse photography.

✔ **Time Interval Settings**
If the delay is shorter than the time required to record each photograph, the actual interval between photographs will be longer than that specified in the Time Lapse Photography dialog.

✐ **The Time Lapse Photography Dialog**
If you make a mistake in entering settings in the Time Lapse Photography dialog, a warning will be displayed. Return to the Time Lapse Photography dialog and adjust settings as directed.
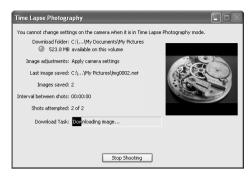
✐ **Error Logs**
If an error occurs during shooting, an error log will be displayed; click **OK** to close the log and return to the Camera Control window.

🔍 **The Minimize Button (Windows/Mac OS X)**
Clicking the minimize button in the progress dialog minimizes Nikon Capture 4 Camera Control.

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**6** Follow the progress of time lapse photography in the progress dialog
Click **Stop Shooting** to end time lapse photography at any time. If a number of shots was specified in the Time Lapse Photography dialog, shooting will end when the specified number of shots has been taken.



**7** Close the Time Lapse Photography dialog
Once the specified number of shots has been taken, the **Stop Shooting** button will change to **Shooting Complete**. Click **Shooting Complete** to exit the Time Lapse Photography dialog.

✔ **During Time-Lapse Photography**
The camera can not be operated during time-lapse photography. No other operations can be performed until the Time Lapse Photography dialog is closed.

🖉 **Auto Off (D1-Series Cameras)**
When the camera is operated on battery power and **for 15 minutes** has been selected for "While Nikon Capture Camera Control is running, keep camera awake" in the General tab of the Preferences dialog (👅 260), choose a delay of fifteen minutes or less. When taking photographs at longer intervals, use an EH-4 AC adapter (available separately) to power the camera.
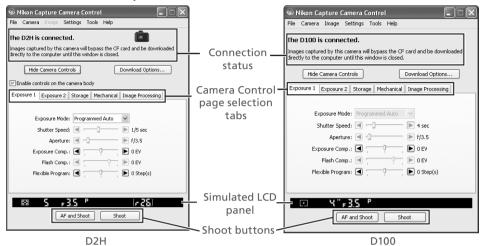
🖉 **Hard Disk Full**
A warning will appear when space is no longer available on the destination disk for photographs taken using time lapse photography. Use the information in the warning to reduce the number of photographs or change the destination drive.

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## The Nikon Capture 4 Camera Control Window

The Nikon Capture 4 Camera Control window shows current camera settings, which may be viewed by clicking the five page selection tabs. Camera settings can be altered using the controls in each tab as described below. The simulated LCD panel and the **Hide Camera Controls**, **Download Options…**, and shoot buttons can be accessed from all five tabs.

Connection status

Camera Control page selection tabs

Simulated LCD panel

Shoot buttons

D2H

D100

### Connection Status
This area shows the following information about the camera currently connected:
• Camera name
• Camera orientation (D2H only)

Horizontal

Rotated 90° clockwise

Rotated 90 counterclockwise

Note that if **Off** is selected for **Auto image rotation** in the camera setup menu, the horizontal icon will be displayed regardless of camera orientation.

### Hide Camera Control
Click this button to hide the Camera Control panels during shooting.

### Download Options
Click this button to choose a destination and file name for pictures captured from the camera.

### Enable controls on the camera body (D2H only)
Check this option to enable the D2H camera controls, allowing settings to be adjusted and photographs to be taken directly from the camera. The camera power switch, AF-area mode selector, and depth-of-field preview button can not be used when this option is checked; all other controls function normally.

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✎ **The Function Dial (D100 Digital Cameras Only)**
The D100 can only be used to take photographs when the function dial is set to P, S, A, or M. At other settings, the shoot buttons in the Camera Control dialog will be disabled and the simulated LCD panel will not be displayed.

*Simulated LCD Panel*
This panel shows the information displayed in the camera's viewfinder, with the exception of camera errors. Clicking on an indicator in the panel opens the Nikon Capture 4 Camera Control window to the tab that controls the selected option, where adjustments can be made.

When the D2H is connected, the amount of memory remaining in the camera memory buffer is displayed at the right edge of the simulated LCD panel. This information is updated at regular intervals, but temporary discrepancies may exist between the display and the actual amount of memory remaining in the buffer.

*Shoot Buttons*
Click either of these buttons to take a photograph at current settings.

### AF and Shoot/AF and Start
When this button is clicked, the camera will perform an autofocus and then release the shutter to take a photograph. If the D2H is connected with continuous high-speed or continuous low-speed mode selected (⌛ 239), this button will be labeled **AF and Start**; click to perform an autofocus operation and start shooting.

### Shoot/Start
Click this button to take a photograph. If the D2H is in continuous high-speed or continuous low-speed mode (⌛ 239), this button will be labeled **Start**; click to start shooting.

If the selected focus mode is single-servo AF, an autofocus operation will be performed before the shutter is released.

📖 **Camera Settings That Can Not Be Adjusted from Nikon Capture**
The following operations can not be performed from Nikon Capture 4 Camera Control:

| | Operation | Camera |
|---|---|---|
| **Status not displayed** | Burst photography (continuous shooting mode) | D1-series/D100 |
| | Continuous servo autofocus | D1-series/D100/D2H |
| | Pressing the shutter-release button halfway to check focus | D1-series/D100/D2H |
| | Manual aperture adjustment using the lens aperture ring | D1-series/D2H |
| | Reactivating the camera after it has entered sleep mode | D1-series |
| | Depth-of-field preview | D1-series/D100/D2H |
| | Auto bracketing | D1-series/D100/D2H |
| | Compression options for NEF (RAW) images | D100 |
| | Operation assigned to FUNC. button with Custom Setting f4 | D2H |
| **Status displayed** | Focus mode | D1-series/D100/D2H |
| | Metering | D1-series/D100 |
| | Exposure mode | D100 |
| | Shooting mode | D100 |
| | Shutter-speed lock | D1-series/D2H |
| | Aperture lock | D1-series/D2H |
| | Autoexposure lock | D1-series/D100/D2H |
| | Speedlight flash-level compensation | D2H |
| | M-up (mirror up) mode selection | D2H |
| | Selection of second center focus area group in group dynamic-AF mode | D2H |

### The Exposure 1 Tab
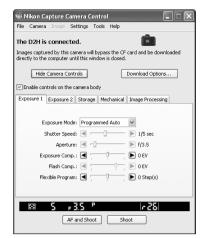
The following settings can be adjusted from the Exposure 1 tab:

#### Exposure Mode

This menu can be used to set the exposure mode for D2H and D1-series cameras. If the D100 is connected, it will show the current exposure mode, but the exposure mode must be selected using the camera function dial. See the camera manual for details.

#### Shutter Speed

Shutter speed can only be adjusted in **Manual** and **Speed Priority** modes, when it can be set to values between the maximum and minimum values supported by the camera. Use high shutter speeds to freeze motion, low shutter speeds to suggest motion by blurring moving objects.

Controls displayed when D2H is connected

#### Aperture

Aperture can only be adjusted in **Manual** and **Aperture Priority** modes, when it can be set to values between maximum and minimum aperture (small apertures have high f-numbers, wide apertures low f-numbers; the actual apertures available depend on the lens used). Aperture can not be controlled from Nikon Capture when Custom Setting 22 (🔲 251) has been set to allow aperture to be adjusted manually using the lens aperture ring (D1-series only).

#### Exposure Comp.

Exposure compensation is useful when shooting subjects containing sharp lighting contrasts, or on other occasions when you want to modify the exposure value determined by the camera. Exposure compensation is available in all exposure modes.

#### Flash Comp. (D100 only)

This option is used to adjust the level of the D100's built-in Speedlight.

#### Flexible Program

Flexible program can only be used in Program Mode, when it allows you to choose from predetermined combinations of shutter speed and aperture appropriate to current lighting conditions.

✎ **The Function Dial (D100 Digital Cameras Only)**
The D100 can only be used to take photographs when the function dial is set to P, S, A, or M. At other settings, the controls in the Exposure 1 tab will be disabled.
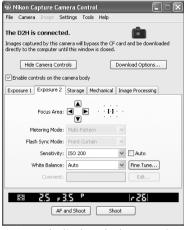
✎ **Non-CPU Lenses**
See page 241 for information on the settings available with non-CPU lenses.

🔍 **Bulb**
At a shutter speed of Bulb, the shutter remains while the shutter release button is held down. Use the camera shutter-release button to take photos at this setting. Clicking either of the shoot buttons will display an error message.
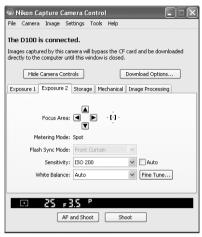
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**The Exposure 2 Tab**
The following settings can be adjusted from the Exposure 2 tab. See the camera manual for details:

Controls displayed when D2H is connected

Controls displayed when D100 is connected

*Focus Area*
The focus area can be selected using the arrow buttons. D1-series and D100 cameras offer a choice of five focus areas, the D2H eleven. In group dynamic-AF area mode (D2H only) the selected focus-area group is displayed (the groupings used are determined by the option selected for Custom Setting a3, **Group dynamic AF**). See the camera manual for details. For information on AF-area mode and focus mode, see "The Mechanical Tab" (🔆 239).

*Metering Mode*
Unless **Enable controls on the camera body** is checked, the metering mode can be selected from this menu (D2H only). Metering mode defaults to the option selected with the camera metering selector. If **Enable controls on the camera body** is checked or a D1-series or D100 camera is connected, the current metering mode will be shown, but changes can only be made using camera controls. See the camera manual for details.

*Flash Sync Mode*
This option controls the camera flash sync mode.

*Sensitivity*
Sensitivity (ISO equivalency) can be raised when taking photographs in low light conditions. See the user's manual provided with your camera for details.

*Auto* (D100/D2H only)
When this option is checked, the camera will adjust sensitivity (ISO equivalency) automatically (ISO auto).

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*White Balance*
White balance is used to ensure that colors which appear white when viewed directly are white in the final photograph. See the camera manual for details.

*Fine Tune…/Set Temp…*
Click **Fine Tune…** to make fine adjustments to white balance (🔅 153). If **Choose color temp.** is selected (D2H only), this button will be labeled **Set temp…**. Click this button to choose a color temperature (🔅 244). Fine tuning is not available with preset white balance.

*Comment* (D2H only)
This field lists the comments for all white balance presets.

*Edit…* (D2H only)
This button is only available when **Preset** is selected for white balance. Clicking **Edit…** displays the dialog shown at right, where the comments for each of the white balance presets can be edited. After entering descriptive comments of up to thirty-six characters each, click **OK** to copy the comments to the camera.

📝 **Comments (D2H Only)**
In addition to letters and numbers, comments can contain quotes, apostrophes, spaces, and any of the following characters: "," "." "!" "?" "#" "$" "%" "&" "(" ")" "[" "]" "{" "}" "*" "+" "-" "/" ":" ";" "<" "=" ">" "_" and "@".

📷 **White Balance**
If desired, white balance can be used to produce an intentionally unbalanced rendering of a scene.

### The Storage Tab
The following settings can be adjusted from the Storage tab:

#### Data Format
The following data formats are available: **RAW (12-bit) + JPEG (8-bit)** (D2H only), **RAW (12-bit)**, **TIFF-RGB (8-bit)**, **TIFF-YCbCr (8-bit)** (D1-series only), and **JPEG (8-bit)**. This setting determines pixel bit depth and file size.

#### Compression
When data format is set to **JPEG (8-bit)** or **RAW (12-bit) + JPEG (8-bit)** (D2H only), you can choose the image quality (JPEG compression) setting from **Fine**, **Normal**, and **Basic**.

#### Color
Choose from **Color** and **Black & White** (D1-series only). **Black & White** is not available with the D100 or D2H or when **RAW** is selected for **Data Format**.

Controls displayed when D2H is connected

#### Image Size
Choose image size. See the camera manual for details.
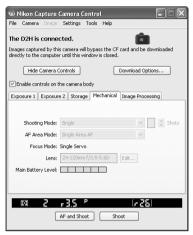
#### RAW Compression (D1X/D1H/D2H Only)
Check this option to compress NEF (RAW) images taken at a data format setting of **RAW (12-bit) + JPEG (8-bit)** (D2H only) or **RAW (12-bit)**.
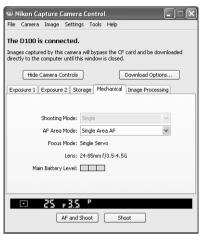
**The Mechanical Tab**
The following settings can be adjusted from the Mechanical tab:



Controls displayed when D2H is connected



Controls displayed when D100 is connected

*Shooting Mode*
Sets the shooting mode for D1-series cameras connected in PC mode to **Single** or **Continuous**. Changes to this setting also apply to Custom Setting 30. Unless **Enable controls on the camera body** is checked in the connection status area, the shooting mode for D2H cameras can be selected from **Single**, **Continuous**, **High-Speed Continuous**, and **Self-Timer**. If **Continuous** or **High-Speed Continuous** is selected, the **AF and Shoot** and **Shoot** buttons will instead be labeled **AF and Start** and **Start**. If **Enable controls on the camera body** is checked or a D100 camera is connected, the current shooting mode will be shown, but changes can only be made using camera controls. See the camera manual for details.

*Maximum Shots* (D2H only)
Use the arrows to choose the maximum number of shots that can be taken in a single burst in continuous low-speed or continuous high-speed modes, or enter a value directly in the text box. Choose any value between 1 and 40; the value chosen should not, however, exceed the capacity of the camera memory buffer as shown at the right edge of the LCD display. Values larger than the capacity of the camera memory buffer will be shown in red. This setting only applies when the camera is connected, and differs from the number of shots selected with Custom Setting d2.

*AF Area Mode*
Choose the AF-area mode. If **Enable controls on the camera body** is checked (D2H only), the current AF-area mode will be shown, but changes can only be made using camera controls. See the camera manual for details.

*Focus Mode*
The current focus mode setting is displayed. See the camera manual for details. This setting can not be changed from Nikon Capture.

### Lens

Displays the focal length and maximum aperture of the lens currently attached to the camera. Depending on the lens type, some information may not be displayed. If the lens focal length or maximum aperture have been specified manually (see below), an asterisk will appear next to these values.

### Edit… (D2H only)

This button is only available when a non-CPU lens is mounted on the camera. Clicking **Edit…** displays the dialog shown at right, where the lens focal length and maximum aperture can be entered. Click **OK** to copy the values to the camera.



### Main Battery Level

Displays the level of the main camera battery. Green indicates that the battery has enough charge for continued operation. Yellow indicates that battery level is low; ready a fully charged spare battery pack. Red indicates that the battery is exhausted, and that no further photographs can be taken until the battery pack has been replaced. You may not be able to control the camera from Nikon Capture when the battery is exhausted. Replace with a fully charged spare battery pack or use an AC adapter (available separately).

### Clock Battery Level (D1-series only)

Displays the level of the camera clock battery. Should this display turn yellow or red, have the clock battery replaced by an authorized Nikon service representative (a fee is charged for this service).

---

🖉 **Self-Timer Mode (D100 Cameras Only)**

When the shooting mode dial on the D100 is set to self-timer mode, the Mechanical tab will show a shooting mode of **Single**, and any photographs taken with the Nikon Capture 4 Camera Control shoot buttons will be taken in single-frame mode with no shutter-release delay. To take pictures in self-timer mode, use the shutter-release button on the camera.

🖉 **Continuous Mode (D2H Cameras Only)**

When the D2H is connected, the amount of memory remaining in the camera memory buffer is displayed at the right edge of the simulated LCD panel. This information is updated at regular intervals, but temporary discrepancies may exist between the display and the actual amount of memory remaining in the buffer.

🔍 **Taking Photographs in Continuous Mode**

When a D100 is connected or a D1-series camera is in PC mode, continuous shooting can only be performed using the camera shutter-release button. The shoot buttons in the camera control window can only be used to take one photograph at a time.

---

✐ **Non-CPU Lenses**

The following restrictions apply to Nikon Capture 4 Camera Control when a non-CPU lens is mounted on the camera (the operations listed can still be performed using the controls on the camera body; see the camera manual for details):

| | | | D2H | |
|---|---|---|---|---|
| | **D1-series** | **D100** | **Lens data specified** | **Lens data not specified** |
| **Exposure Mode** | Can be selected from **Aperture-priority auto** and **Manual**. | Can not be adjusted. Mode selected with camera displayed. | Can be selected from **Aperture-priority auto** and **Manual**. | |
| **Shutter Speed** | Can only be adjusted in manual exposure mode. | Can only be adjusted in manual and shutter-priority auto exposure modes. | Can only be adjusted in manual exposure mode. | |
| **Aperture** | Aperture shown as "f/--". Can not be adjusted. | | Asterisk appears next to selected aperture. | Aperture shown as "f/--". Can not be adjusted. |
| **AF and Shoot** | Can not be used, | | | |
| **Shoot** | Can be used.* | | | |

* If D100 is connected and set to an exposure mode other than manual, a warning will be displayed.

### The Image Processing Tab
The following settings can be adjusted from the Image Processing tab:

#### *Sharpening*
This option controls how much the camera sharpens outlines.  See the camera manual for details.
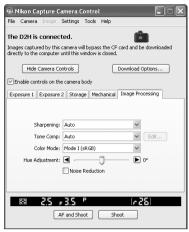
#### *Tone Comp*
This setting controls contrast.  See the camera manual for details.

#### *Color Mode* (D1x, D1ʜ, D100, and D2H only)
The D100, D1x, D1ʜ, and D2H offer a choice of color modes.  See the camera manual for details.  With the D1, colors are optimized for the NTSC color space, regardless of the option chosen for color mode.

Controls displayed when D2H is connected

#### *Hue Adjustment* (D1x, D1ʜ, D100, and D2H only)
Use to modify hue while leaving brightness and chroma unaffected.  Adjustments can be made in the range –9° to 9°, with 0° representing the original hues as recorded by the camera (in D1-series cameras, –9° is equivalent to a camera hue setting of 0, 0° to a setting of 3, and 9° to a setting of 6).

#### *Noise Reduction* (D100 and D2H only)
At shutter speeds slower than ½ s, "noise" in the form of randomly-spaced, brightly-colored pixels may appear in photographs, particularly in shadows.  Check **Noise Reduction** to reduce noise.

### Saving and Loading Camera Control Settings
The **Camera Control** option in the **Settings** menu is used to save Nikon Capture 4 Camera Control settings and to load and apply previously saved settings.

| Option | Description |
|---|---|
| **Load Camera Settings…** | Select this item to load camera settings previously saved using the **Save Camera Settings…** option (see below).  A dialog will be displayed where you can navigate to the drive (volume) and directory containing the desired settings file (only files with the extension ".ncc" will be displayed).  The settings in the Camera Control window will instantly revert to the saved settings. |
| **Save Camera Settings…** | Select this item to save the settings in the Camera Control window to a named file.  These settings can later be recalled using the **Load Camera Settings…** option.  Choosing **Save Camera Settings…** displays a dialog where you can choose a destination and file name for current camera settings.  Camera settings are saved with the extension ".ncc". |

**The Camera Menu**
The commands in the **Camera** menu are used to adjust the following camera settings:

*Custom Settings…*
Selecting this option opens the Custom Settings dialog (🔊 246), where camera Custom Settings can be adjusted.
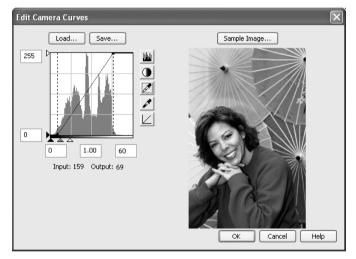
*Camera Date and Time…*
Selecting this option opens the dialog shown at right, where you can set the camera's clock calendar to the current date and time. To view the current time and date settings, click **Use Current Date/Time**. Click **Set** to set the clock calendar to the time and date shown.

*Edit Camera Curves…*
This option is used to create a custom tone compensation curve and download it to the camera, where it applies when "Custom" is selected for the camera tone compensation option.
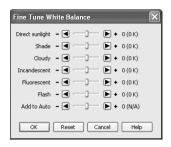
The controls in the Edit Camera Curves window are identical to those in the Curves window, except in the following respects: (1) only the master channel, not individual RGB channels, may be edited; (2) there is a limit of 20 spline points; (3) the midpoint may not be edited; (4) a user-defined sample image can be selected by clicking the **Sample Image…** button. Any changes to curves are reflected in the sample image. To copy the edited curve to the camera, click **OK**.

The upper left section of the Edit Camera Curves window contains **Load…** and **Save…** buttons. By clicking the **Load…** button, previously stored curves, with less than 20 spline points, can be selected via the "Open" dialog (if the selected file has more than 20 spline points, a warning will be displayed, and no file will be loaded). Look for files with the ".ntc" extension.

The **Save…** button opens the "Save As" dialog, where you can save the current curve.

*Fine-Tune White Balance…*
Selecting this option displays the dialog shown at right, where white balance can be fine-tuned between –3 and +3. The value selected for **Add to Auto** will be added to the white balance setting the camera chooses for auto white balance. Clicking **Reset** returns all values to defaults. Click **OK** to apply the current settings to the camera, or click **Cancel** to discard any changes and return to the Nikon Capture 4 Camera Control window.

*Set Color Temperature…* (D2H only)
Selecting this option displays the dialog shown at right, where color temperature can be chosen from a menu. The value chosen takes effect whenever **Choose color temp.** is selected for white balance. Click **OK** to apply the current settings to the camera, or click **Cancel** to discard any changes and return to the Nikon Capture 4 Camera Control window.

*Measure White Balance…*
Use this option to measure preset white balance. If the camera currently connected supports multiple values for preset white balance, the setting that will be used to store the measured value can be chosen from the pop-up menu at the top of the dialog. Adjust camera settings as described in the section on preset white balance in the camera user's manual and click **OK** to measure a value for white balance.

D1x/D1h         D1/D100         D2H

*Dust Off Ref Photo* (D2H only)
Choose this option to take a reference photo for Image Dust Off. The dialog shown at right will be displayed. With the camera lens ten centimeters (four inches) from a featureless white object, frame the object so that it fills the viewfinder and click **OK** to record an Image Dust Off reference photo. See the camera manual for details.

✐ **The Function Dial (D100 Cameras Only)**
The D100 can only be used to take photographs when the function dial is set to P, S, A, or M. At other settings, the **Measure White Balance…** option is disabled.

✐ **Set Color Temperature… (D2H Cameras Only)**
The desired results may not be achieved with flash or fluorescent lighting.
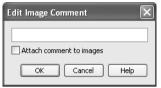
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*Edit Image Comment…*
Selecting this option displays the dialog shown at right, where you can enter a comment or title for subsequent photographs. If the camera currently connected is in the D1-series, enter a title of thirty-eight characters or less and click **OK**. The title will be used for all subsequent photographs taken while the camera is connected. When a D100 or D2H camera is connected, the title is stored in the camera as an image comment of thirty-six characters or less which is appended to photographs only when the **Attach comment to images** box is checked.

D1-series

D100/D2H

*Select Shooting Settings Bank…* (D100 and D2H only)
Selecting this option displays the dialog shown at right, where you can choose the shooting menu bank in which changes to settings will be stored while the camera is controlled from Nikon Capture 4 Camera Control. See the camera manual for details.

The D2H allows a descriptive comment to be added to the name of each shooting menu bank. Clicking **Edit…** displays the dialog shown at right, where the comments for each bank can be edited. After entering descriptive comments of up to twenty characters each, click **OK** to copy the comments to the camera.

D100

D2H

Edit Comment dialog

*Live Batch…*
Selecting this option opens the Live Batch dialog (226).

*Time Lapse Photography…*
Selecting this option opens the Time Lapse Photography dialog (230).
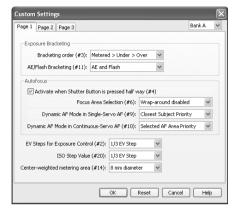
✐ **Comments for Shooting Menu Banks (D2H Only)**
In addition to letters and numbers, comments can contain quotes, apostrophes, spaces, and any of the following characters: "," "." "!" "?" "#" "$" "%" "&" "(" ")" "[" "]" "{" "}" "*" "+" "-" "/" ":" ";" "<" "=" ">" "_" and "@".

## Custom Settings

Most of the custom settings stored in camera memory can be viewed and adjusted from the Custom Settings window in Nikon Capture 4 Camera Control. For more information on Custom Settings, see the documentation provided with your camera.

**1** Select **Custom Settings…** from the **Camera** menu
The Custom Settings dialog will be displayed.



D1-series/D100 cameras
(illustration shows settings for D1x)

D2H

The Custom Settings dialog shows the Custom Settings currently in effect.

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🔍 **Changes to Custom Settings**

Changes made to settings in the Custom Settings dialog are stored in the camera, not on the computer hard disk. This means that changing settings in the Custom Settings dialog has the same effect as changing Custom Settings using camera controls.

---

## 2 Choose a Custom Settings bank

Choose a Custom Settings bank (Custom Settings set) from the pop-up menu at the top right corner or the Custom Settings dialog.



The banks available depend on the model of camera currently connected. When the D1 or D100 is connected, you have a choice of banks A or B; when the D1x, D1H, or D2H is connected, banks A, B, C, or D can be selected.

## 3 Click OK

After making any changes to Custom Settings, click **OK** to save changes in the camera Custom Settings bank and exit the Custom Settings dialog.

Custom Settings for the D1-series and D100 cameras are described on pages 248–251, Custom Settings for the D2H on pages 252–258. Depending on the model of camera connected, some Custom Settings may not be available.

### 🔘 Custom Settings

Custom Settings can not be saved to a separate file. Clicking the Reset button resets all Custom Settings to their default values.

### 🔘 Settings That Can Not Be Adjusted from the Custom Settings Window

The Custom Settings listed below can not be adjusted in the Custom Settings window.
- Mirror lock-up for CCD cleaning (D1-series Custom Setting 8)/Cleaning mirror up (D100 setup menu): can only be adjusted from the camera
- RAW (NEF) image save (D1-series Custom Setting 28): if this option is set to "0" (off) when Nikon Capture is started, a message will be displayed. Clicking OK in this dialog sets Custom Setting 28 to "1" (uncompressed RAW image save enabled). Custom Setting 28 can only be returned to "0" from the camera.
- ISO Auto (D100 Custom Setting 3)/ISO Boost (D1-series Custom Setting 31): can be adjusted from the Exposure 2 tab of the Camera Control window.
- PC Shooting Mode (D1-series Custom Setting 30): this option is adjusted from the Mechanical tab of the Camera Control window.
- Tone Compensation (D1-series Custom Setting 24)/Color Mode (D1x/D1H Custom Setting 32)/Hue Adjustment (D1x/D1H Custom Setting 33)/Noise Reduction (D100 Custom Setting 4): can be adjusted from the Processing tab of the Camera Control window.
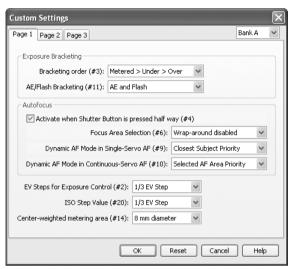
### Custom Settings for D1-Series and D100 Cameras
The illustrations on the following pages show the settings displayed when the D1x is connected.

*The Page 1 Tab*
The Page 1 tab contains the following settings:



*The Exposure Bracketing Area*

| Item | Camera | Custom Setting # |
|---|---|---|
| Bracketing order | D1-series | 3 |
| | D100 | 12 |
| AE/Flash Bracketing | D1-series | 11 |
| AE/WB/Flash Bracketing | D100 | 11 |

*The Autofocus Area*

| Item | Camera | Custom Setting # |
|---|---|---|
| Activate when Shutter Button is pressed halfway | D1-series | 4 |
| Focus Area Selection | D1-series | 6 |
| | D100 | 17 |
| Dynamic AF Mode in Single-Servo AF | D1-series | 9 |
| | D100 | 20 |
| Dynamic AF Mode in Continuous-Servo AF | D1-series | 10 |
| | D100 | 21 |
| Activate the AF-assist illuminator | D100 | 22 |

*The Battery Pack Area (D100 with MB-D100 Multi-Function Battery Pack Only)*
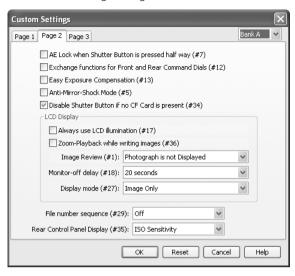
| Item | Custom Setting # |
|:---:|:---:|
| **AF button** | 25 |
| **Volume** | 26 |

*Other Items*

| Item | Camera | Custom Setting # |
|:---:|:---:|:---:|
| **EV Steps for Exposure Control** | D1-series | 2 |
| **ISO Step Value** | D1x/D1H | 20 |
| **Center-weighted metering area** | D1-series | 14 |

*The Page 2 Tab*

The Page 2 tab contains the following settings:



*The Viewfinder Area (D100 Only)*

| Item | Custom Setting # |
|---|---|
| **Focus area illumination** | 18 |
| **Show grid lines** | 19 |

*The LCD Display Area*

| Item | Camera | Custom Setting # |
|---|---|---|
| **Always use LCD illumination** | D1-series | 17 |
| | D100 | 16 |
| **Zoom Playback while writing images** | D1x | 36 |
| **Image Review** | D1-series/D100 | 1 |
| **Monitor-off delay** | D1-series | 18 |
| | D100 | 6 |
| **Display mode** | D1-series | 27 |

*Other Items*

| Item | Camera | Custom Setting # |
|---|---|---|
| **AE Lock when Shutter Button is pressed halfway** | D1-series | 7 |
| **Exchange functions for Front and Rear Command Dials** | D1-series | 12 |
| **Easy Exposure Compensation** | D1-series | 13 |
| **Anti-Mirror-Shock Mode** | D1-series | 5 |
| **Disable Shutter Button if no CF Card is present** | D1x/D1ʜ | 34 |
| **File-number sequence** | D1-series | 29 |
| **Rear Control Panel Display** | D1x/D1ʜ | 35 |

*The Page 3 Tab*
The Page 3 tab contains the following settings :
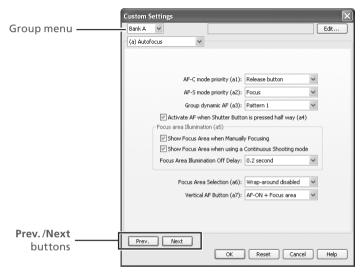
| Item | Camera | Custom Setting # |
|---|---|---|
| **Blink self-timer LED when shutter is released** | D1 | 20 |
| **Change aperture setting via lens aperture ring** | D1-series | 22 |
| **Disable shutter button if no CF card present** | D100 | 2 |
| **File-number sequence** | D100 | 5 |
| **Easy exposure compensation** | D100 | 10 |
| **Exchange functions for front and rear command dials** | D100 | 13 |
| **AE lock when shutter button is pressed halfway** | D100 | 15 |
| **Anti-mirror-shock mode** | D100 | 24 |
| **Auto meter-off delay** | D1-series | 15 |
| | D100 | 7 |
| **Self-timer delay** | D1-series | 16 |
| | D100 | 8 |
| **EV steps for exposure control** | D100 | 9 |
| **Aperture control during zoom** | D1-series | 19 |
| **AE-L/AF-L button** | D1-series | 21 |
| | D100 | 14 |
| **Flash mode** | D100 | 23 |
| **Continuous mode shooting speed** | D1-series | 25 |
| **Continuous mode max shots** | D1-series | 26 |

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## Custom Settings for D2H Cameras

The D2H allows a descriptive comment to be added to the name of each Custom Settings bank. Clicking **Edit...** displays the dialog shown at right, where the comments for each bank can be edited. After entering descriptive comments of up to twenty characters each, click **OK** to copy the comments to the camera.

Custom Settings in each bank are divided into six groups: autofocus, metering/exposure, timers/autoexposure and autofocus lock, shooting/display, bracketing/flash, and controls. The group can be chosen from the group menu or by clicking the **Next** and **Prev.** buttons.
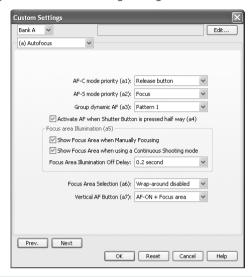
Group menu ——

Prev. /Next buttons

✐ **Comments (D2H Only)**
In addition to letters and numbers, comments can contain quotes, apostrophes, spaces, and any of the following characters: "," "." "!" "?" "#" "$" "%" "&" "(" ")" "[" "]" "{" "}" "*" "+" "-" "/" ":" ";" "<" "=" ">" "_" and "@".

*Autofocus*
The **Autofocus** group contains the following settings:
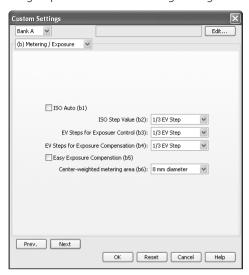


| Item | Custom Setting # |
|---|---|
| **AF-C mode priority** | a1 |
| **AF-S mode priority** | a2 |
| **Group dynamic AF** | a3 |
| **Activate AF when Shutter Button is pressed half way** | a4 |
| **Focus area Illumination** | a5 |
| **Show Focus Area when Manually Focusing** | |
| **Show Focus Area when using a Continuous Shooting mode** | |
| **Focus Area Illumination Off Delay** | |
| **Focus Area Selection** | a6 |
| **Vertical AF Button** | a7 |

*Metering/Exposure*
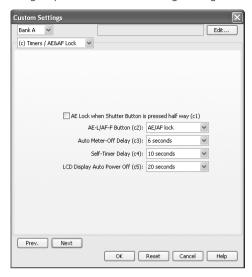
The **Metering/Exposure** group contains the following settings:



| Item | Custom Setting # |
|------|------------------|
| **ISO Auto** | b1 |
| **ISO Step Value** | b2 |
| **EV Steps for Exposure Control** | b3 |
| **EV Steps for Exposure Compensation** | b4 |
| **Easy Exposure Compensation** | b5 |
| **Center-weighted metering area** | b6 |

*Timers/AE&AF Lock*
The **Timers/AE&AF Lock** group contains the following settings:
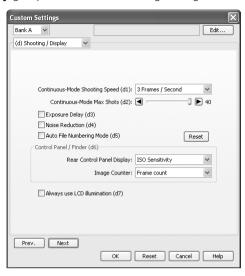


| Item | Custom Setting # |
|---|---|
| **AE Lock when Shutter Button is pressed half way** | c1 |
| **AE-L/AF-L Button** | c2 |
| **Auto Meter-Off Delay** | c3 |
| **Self-Timer Delay** | c4 |
| **LCD Display Auto Power Off** | c5 |

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*Shooting/Display*
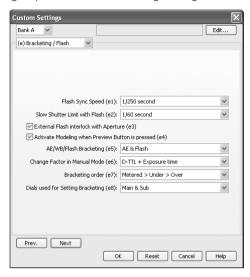
The **Shooting/Display** group contains the following settings:



| Item | Custom Setting # |
|---|---|
| **Continuous-Mode Shooting Speed** | d1 |
| **Continuous-Mode Max Shots** | d2 |
| **Exposure Delay** | d3 |
| **Noise Reduction** | d4 |
| **Auto File Numbering Mode** | d5 |
| **Control Panel/Finder** | |
| **Rear Control Panel Display** | d6 |
| **Image Counter** | |
| **Always use LCD illumination** | d7 |

*Bracketing/Flash*
The **Bracketing/Flash** group contains the following settings:
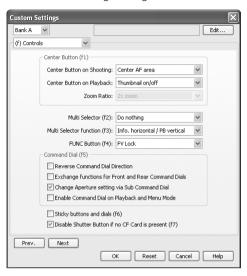


| Item | Custom Setting # |
|---|---|
| **Flash Sync Speed** | e1 |
| **Slow Shutter Limit with Flash** | e2 |
| **External Flash interlock with Aperture** | e3 |
| **Activate Modeling when Preview Button is pressed** | e4 |
| **AE/WB/Flash Bracketing** | e5 |
| **Change Factor in Manual Mode** | e6 |
| **Bracketing order** | e7 |
| **Dials used for Setting Bracketing** | e8 |

*Controls*

The **Controls** group contains the following settings:



| Item | Custom Setting # |
|------|:---:|
| **Center Button** | f1 |
| **Center Button on Shooting** | |
| **Center Button on Playback** | |
| **Zoom Ratio** | |
| **Multi Selector** | f2 |
| **Multi Selector function** | f3 |
| **FUNC Button** | f4 |
| **Command Dial** | f5 |
| **Reverse Command Dial Direction** | |
| **Exchange functions for Front and  Rear Command Dials** | |
| **Change Aperture setting via Sub Command Dial** | |
| **Enable Command Dial on Playback and Menu Mode** | |
| **Sticky buttons and dials** | f6 |
| **Disable Shutter Button if no CF Card is present** | f7 |

# Nikon Capture 4 Camera Control Preferences

*Fine-Tuning Nikon Capture 4 Camera Control*

To view the Preferences dialog for Nikon Capture 4 Camera Control, select **Options…** from the **Tools** menu (Windows) or select **Preferences…** from the application menu (Mac OS X) or **Edit** menu (Mac OS 9).

| Tools | | Edit | | Nikon Capture Control | |
|---|---|---|---|---|---|
| Show Nikon Capture Editor | | Can't Undo | ⌘Z | About Nikon Capture Camera Control… | |
| Show Nikon View | | | | Preferences… | ⌘K |
| Options… | Ctrl + K | Cut | ⌘X | | |
| | | Copy | ⌘C | Services | ▶ |
| | | Paste | ⌘V | | |
| | | Clear | | | |
| | | Preferences… | ⌘K | | |

| Windows | Mac OS 9 | Mac OS X |
|---|---|---|

The Preferences dialog contains the following three tabs:

| Tab | Description | 👁 |
|---|---|---|
| General | Choose the length of time the camera remains active when no operations are performed. | 260 |
| Temporary Files | Specify the location of the folders used for temporary storage. | 261 |
| Color Management | Select the color profiles used by the Nikon Color Management System (CMS). | 261 |

After making changes to preferences, click **OK** to save changes and return to the Nikon Capture 4 Camera Control window. Click **Cancel** to cancel any changes to settings and return to the Nikon Capture 4 Camera Control window.

🔍 **Viewing Preferences**

To view settings in any of the three panels, click the appropriate tab.

Tab ——

| Options | ☒ |
|---|---|
| General | Temporary Files | Color Management |

## The General Tab

The General tab contains the following items:

*While Nikon Capture Camera Control is running, keep camera awake*
Set the length of time before exposure meters turn off automatically when the camera is running on battery power. This setting only takes effect when the camera is connected and powered on, and only when Nikon Capture 4 Camera Control is running. This setting takes precedence over the auto meter off option chosen using camera Custom Settings. The D100 and D2H will stay awake indefinitely, regardless of the setting chosen here.

> **for 15 minutes** (D1-series only)
> The time before exposure meters turn off automatically is set to fifteen minutes.

> **Always**
> The camera stays awake indefinitely. Note that this will increase the drain on the battery.
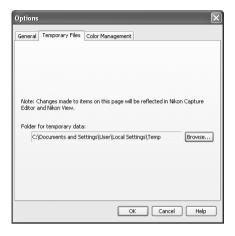
When powered by an AC adapter (available separately), the camera stays awake indefinitely, regardless of the setting chosen using the above option.

## The Temporary Files Tab

The Temporary Files tab contains the following item:
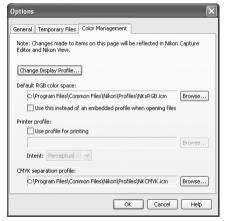
### Folder for temporary data

Specify the folder or volume in which temporary data, such as image cache data, will be stored. The default folder for Windows is the "TEMP" folder in the Windows directory, while the default volume for the Macintosh is the start-up disk. To choose a different folder in the Windows version of the program, click the **Browse...** button and navigate to the desired location. In the Macintosh version, a new volume can be chosen from the pop-up menu.

## The Color Management Tab

For more information on the Color Management tab, see "Nikon Capture 4 Editor Preferences" (⚠ 211).

Windows                                    Macintosh

🔧 **Folder for Temporary Data**
The folder chosen for temporary storage in the Temporary Files tab also applies to Nikon Capture 4 Editor and Nikon View. Changes will only take effect after the program has been restarted.

🔧 **The Color Management Tab**
Changes to settings in the Color Management tab also apply to Nikon Browser, Nikon Viewer, and Nikon Capture 4 Editor.

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# Appendices

The appendices cover the following topics.

*Appendix A: Supported Color Profiles*
Read this section for a description of the RGB color-space profiles supported under Nikon Capture 4.

*Appendix B: Color Matching in Adobe Photoshop (Version 7.0 or later)*
Learn how to preserve color-space profile information when opening images in Adobe Photoshop (version 7.0 or later).

*Appendix C: Troubleshooting*
Read this section for information on what to do when Nikon Capture 4 does not function as expected.

*Appendix D: Glossary*
Refer to this section when you are unsure of the meanings of the terms used in this manual.

# Appendix A

*Supported Color Profiles*

## 1. Standard RGB Profiles Supported in Nikon Capture 4

### 1.1 Profiles with a Gamma Value of 1.8

*Apple RGB (Nikon Apple RGB 4.0.0.3000)*
This profile is used in desk-top publishing applications and in Adobe Photoshop versions 4.0 or earlier, and is the typical RGB profile for Macintosh monitors.  The corresponding RGB setting in Adobe Photoshop is "Apple RGB."  This profile is suitable for working with images displayed on the Macintosh.

*ColorMatch RGB (Nikon ColorMatch RGB 4.0.0.3000)*
The ColorMatch profile is native to Radius PressView monitors.  It has a wider gamut than Apple RGB, with a particularly wide area devoted to the reproduction of blues.  The corresponding RGB setting in Adobe Photoshop is "Color Match RGB."

### 1.2 Profiles with a Gamma Value of 2.2

*sRGB (Nikon sRGB 4.0.0.3000)*
This RGB profile is used in the majority of Windows monitors.  It closely resembles the RGB commonly used in color television, and is also used in the digital television broadcasting system that is on its way to becoming the industry standard in the United States of America. Software and hardware manufacturers use it as a default color profile and guarantee operation when it used.  It is also on its way to becoming the standard for images on the web. This profile is suited to users who plan to use their digital images "as is," without editing or printing them.  It however suffers from the drawback of a narrow gamut with a limited area available for reproducing blues. The corresponding RGB setting in Adobe Photoshop 5.0 and 5.5 is "sRGB," the corresponding setting in Adobe Photoshop 6.0 "sRGB IWC61966-2.1."

*Bruce RGB (Nikon Bruce RGB 4.0.0.3000)*
This color profile attempts to expand on the ColorMatch RGB gamut by defining the chromaticity for G as lying between the values for G in the Adobe RGB and ColorMatch color-space profiles.  It was proposed by Bruce Fraser, who claims that it includes most of the colors in the SWOP CMYK gamut.  The R and B used in the Bruce RGB and Adobe RGB color-space profiles match.

*NTSC (1953) (Nikon NTSC (1953) 4.0.0.3000)*
This is the color space for video defined by the National Television Standards Committee (NTSC) in 1953 and used in early color televisions.  This color space is also used in some Far-East newspaper and printing organizations.  The corresponding RGB setting in Adobe Photoshop is "NTSC (1953)."

### *Adobe RGB (1998) (Nikon Adobe RGB (1998) 4.0.0.3000)*

A color-space profile defined in Adobe Photoshop 5.0. It has a wider gamut than sRGB and includes the colors found in most CMYK gamuts, making it suitable for users involved in desktop publishing. The corresponding RGB setting in Adobe Photoshop 5.0 is "SMPTE-240M," the corresponding setting in Adobe Photoshop 5.5 or later "Adobe RGB (1998)."
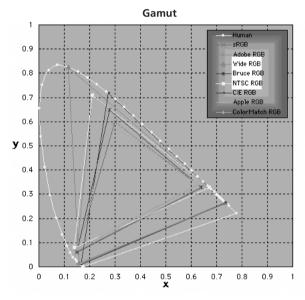
### *CIE RGB (Nikon CIE RGB 4.0.0.3000)*

A video color-space profile established by the Commission Internationale de l'Éclairage (CIE). While it boasts a fairly wide gamut, it suffers from the drawback that the area devoted to the reproduction of cyan is relatively small. The corresponding RGB setting in Adobe Photoshop is "CIE RGB."

### *Adobe Wide RGB (Nikon Adobe Wide RGB 4.0.0.3000)*

This color-space profile, designed by Adobe, incorporates most of the visible colors. This however has the consequence that most of the colors it can express can not be reproduced on standard monitors and printers. The corresponding RGB setting in Adobe Photoshop 5.0 or later is "Adobe Wide RGB."

The gamut of colors that can be expressed in the above color-space profiles is shown in the following chromaticity (x, y) graph. The greater the area enclosed by the triangle that represents the color-space profile, the wider its gamut.



**Gamut**

## 2. Technical Data for RGB Profiles Supported in Nikon Capture 4

The following table shows the gamma values for profiles supported in Nikon Capture 4, together with the chromaticity values for the white point and for red, green, and blue.

| Profile | White point | | | Gamma value | Chromaticity (x, y) | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Color temperature | | Value | | Name | | R | G | B |
| Apple RGB | 6500 K (D$_{65}$) | x | 0.31271591 | 1.8 | Trinitron | x | 0.625 | 0.28 | 0.155 |
| | | y | 0.32900148 | | | y | 0.34 | 0.595 | 0.07 |
| Color Match RGB | 5000 K (D$_{50}$) | x | 0.34570292 | 1.8 | P22-EBU | x | 0.63 | 0.295 | 0.155 |
| | | y | 0.3585386 | | | y | 0.34 | 0.605 | 0.077 |
| sRGB | 6500 K (D$_{65}$) | x | 0.31271591 | 2.2 | HDTV (CCIR 709) | x | 0.64 | 0.3 | 0.15 |
| | | y | 0.32900148 | | | y | 0.33 | 0.6 | 0.06 |
| NTSC (1953) | Std Illuminant C | x | 0.3101 | 2.2 | NTSC (1953) | x | 0.67 | 0.21 | 0.14 |
| | | y | 0.3162 | | | y | 0.33 | 0.71 | 0.08 |
| Bruce RGB | 6500 K (D$_{65}$) | x | 0.31271591 | 2.2 | Bruce RGB | x | 0.64 | 0.28 | 0.15 |
| | | y | 0.32900148 | | | y | 0.33 | 0.65 | 0.06 |
| Adobe RGB (1998) | 6500 K (D$_{65}$) | x | 0.31271591 | 2.2 | Adobe RGB (1998) | x | 0.64 | 0.21 | 0.15 |
| | | y | 0.32900148 | | | y | 0.33 | 0.71 | 0.06 |
| CIE RGB | Std Illuminant C | x | 0.33333333 | 2.2 | CIE RGB | x | 0.735 | 0.274 | 0.167 |
| | | y | 0.33333333 | | | y | 0.265 | 0.717 | 0.009 |
| Adobe Wide RGB | 5000 K (D$_{50}$) | x | 0.34570292 | 2.2 | 700/525/450 nm | x | 0.735 | 0.115 | 0.157 |
| | | y | 0.3585386 | | | y | 0.265 | 0.826 | 0.018 |
| Default Windows monitor | 6500 K (D$_{65}$) | x | 0.31271591 | 2.2 | HDTV (CCIR 709) | x | 0.64 | 0.3 | 0.15 |
| | | y | 0.32900148 | | | y | 0.33 | 0.6 | 0.06 |
| Default Macintosh monitor | 5000 K (D$_{65}$) | x | 0.34570292 | 2.2 | Trinitron | x | 0.625 | 0.28 | 0.155 |
| | | y | 0.3585386 | | | y | 0.34 | 0.595 | 0.07 |

# Appendix B

*Color Matching in Adobe Photoshop (Version 7.0 or Later)*

When an image saved in Nikon Capture 4 is opened in Adobe Photoshop, the profiles used in Adobe Photoshop should match those used in Nikon Capture 4. If the profiles do not match, the colors seen in Adobe Photoshop may not be the same as those in the original image. The profiles used with Nikon Capture 4 can be used with Adobe Photoshop version 7.0 or later.

The first step is to match the Nikon Capture 4 monitor profile with that used in Adobe Photoshop (Windows only). The point to remember is that you should specify the monitor profile for Adobe Photoshop first and then select the same profile for Nikon Capture 4. For more information, see "Choosing a Monitor Profile" (👁 267). Macintosh users will not need to perform this step.

The next step is to save the image from Nikon Capture 4 using a format that supports inclusion of color profile information. If you save the image in TIFF, JPEG (JFIF), or JPEG (Exif), information about the color profile used in Nikon Capture 4 will be embedded in the file, and Adobe Photoshop will use this information to process colors appropriately when the file is opened. For more information, see "Adjusting Settings in Adobe Photoshop" (👁 270).

## Step 1—Choosing a Monitor Profile
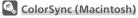
Choose a monitor profile as described below.

### Creating a New Monitor Profile

If you have not yet calibrated your monitor, use Adobe Gamma to create a profile for your monitor. Adobe Gamma is included in the standard install of Adobe Photoshop.

1 **Start Adobe Gamma**
Select **Adobe Gamma** from the system control panels or double-click the **Adobe Gamma** utility icon.



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🔲 **ColorSync (Macintosh)**

The explanation in this section assumes that ColorSync version 3.0 or later is installed on your Macintosh.

2 Create a color profile
Follow the on-screen directions to calibrate your monitor. The resulting monitor profile will be saved in the folder listed below. Make a note of the file name.
  • Windows\System\Color

3 Choose the profile created in Step 2 for Nikon Capture 4
Choose the profile created in Step 2 as the Nikon Capture 4 monitor profile. For details, see "Preferences: The Color Management Tab" (👁 211).
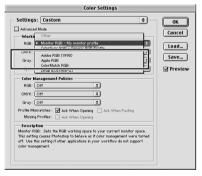
**Using an Existing Monitor Profile**
If you have already calibrated your monitor, follow the steps below to select an existing monitor profile.

1 Display the Color Settings dialog
Select **Color Settings…** from the Adobe Photoshop **Edit** menu.



2 Note the name of the monitor profile
Open the **RGB** pop-up menu in the **Work Spaces** section of the **Color Settings** dialog. The monitor profile will appear to the right of the **Monitor RGB** entry. Note down the name of the profile.



3 Locate the monitor profile
The monitor profile that appeared in Step 2 will be stored in the folder listed below.
• Windows\System\Color

4 Choose the profile as the Nikon Capture 4 monitor profile
Choose the profile noted in Step 2 as the Nikon Capture 4 monitor profile. For details, see "Preferences: The Color Management Tab" (🔖 211, 213).

If you are unable to locate a profile with the correct name, create a new profile as directed in "Creating a New Monitor Profile" (🔖 267).

## Step 2—Adjusting Settings in Adobe Photoshop

The following describes the minimum necessary adjustments to ensure consistent color reproduction in Adobe Photoshop 7.0.  The menus and dialogs referred to below are all from Adobe Photoshop.
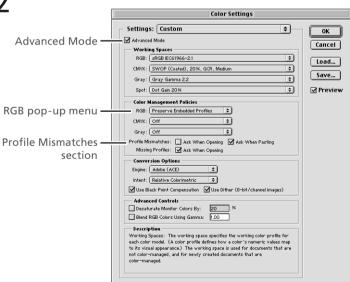
**Opening TIFF and JPEG Images Created Using Nikon Capture 4**

Images saved in TIFF, JPEG (JFIF), and JPEG (Exif) formats include color-space profile information.  Open files in these formats as described below.

1 Display the Color Settings dialog
Select **Color Settings…** from the Adobe Photoshop **Edit** menu.

2 Check Advanced Mode

Advanced Mode

RGB pop-up menu

Profile Mismatches
section

3 Select **Preserve Embedded Profiles** for Color Management Policies
Select **Preserve Embedded Profiles** from the **RGB** pop-up menu in the Color Management Policies section.

4 Remove the check from **Ask When Opening**
Remove the check from **Ask When Opening** in the Profile Mismatches area of the Color Management Policies section.

5 Close the Color Settings dialog
Click **OK** to close the Color Settings dialog.

At these settings, a warning may be displayed when an image is opened. To prevent the warning being displayed again, select the appropriate option in the warning dialog.

**Nikon Capture 4 and Adobe Photoshop Color Profiles**

| Nikon Capture 4 output profile | Adobe Photoshop profile |
|---|---|
| sRGB (Nikon sRGB 4.0.0.3000) | sRGB |
| Apple RGB (Nikon Apple RGB 4.0.0.3000) | Apple RGB |
| Color Match RGB (Nikon Color Match RGB 4.0.0.3000) | Color Match RGB |
| Bruce RGB (Nikon Bruce RGB 4.0.0.3000) | — |
| NTSC (1953) (Nikon NTSC (1953) 4.0.0.3000) | NTSC (1953) |
| Adobe RGB (1998) (Nikon Adobe RGB (1998) 4.0.0.3000) | Version 5.5 or later: Adobe RGB (1998) Earlier versions: SMPTE-240M |
| CIE RGB (Nikon CIE RGB 4.0.0.3000) | CIE RGB |
| Adobe Wide RGB (Nikon Adobe Wide RGB 4.0.0.3000) | Version 5.5 or later: Adobe Wide RGB Earlier versions: Wide Gamut RGB |

# Appendix C

*Troubleshooting*

Should you encounter problems with Nikon Capture 4, check the list on the following pages before consulting your retailer or Nikon representative.

**Nikon Capture 4 Does Not Start**
Confirm that your computer system meets all of the requirements specified for using Nikon Capture 4 (OS, memory, hard disk capacity, etc.). See "System Requirements" (👁 6).

**Nikon Capture 4 Does Not Recognize the Camera**
Verify that Nikon Capture 4 has recognized the camera. D1-series, D100, and D2H cameras will display **PC** in the control panel on top of the camera. Some COOLPIX cameras will display a rectangle with a flashing border when the interface cable is connected. If these indicators do not appear, check the following points:

1 Check the power switch and mode dial
- Is the camera on?
- Is the battery fully charged? To reduce the drain on the battery, we recommend that the camera be powered by an adapter (available separately) when connected to the computer.
- If you are using an AC adapter, is it properly connected and plugged in?
- Is the mode dial set to **PC** (D1-series only)?
- Is the function dial set to **P**, **S**, **A**, or **M** (D100 only)?
- Is the correct option selected in the **USB** menu (D100 and D2H only)? Select **PTP** when connecting the D2H to a computer running Nikon Capture 4 Camera Control. Select **Mass Storage** when connecting the D100 to a computer running Windows 2000 Professional, Windows Millennium Edition (Me), or Windows 98 Second Edition (SE). When connecting the D100 to a Macintosh computer, select **PTP**.

2 Verify that the interface cable is properly connected
- Is the interface cable securely connected to both camera and computer? Remember that IEEE 1394 connectors do not make a "click" when fully inserted. If the cable is securely connected, try disconnecting the cable and reconnecting the devices in a different order.
- Is there another peripheral connected to the IEEE 1394 bus? Try disconnecting other IEEE 1394 devices and connecting just the computer and the camera.

3 Are you using a recommended IEEE 1394 interface (D1-series cameras only)?
See "System Requirements" (👁 6). For information on your IEEE 1394 interface, see the manufacturer's web-site.

---

🔍 **The ReadMe File**
Included on the installer CD is a README file containing the most current information on Nikon Capture 4. Please read this file before installing and using Nikon Capture, as it may contain important information that could not be included in this manual. Should you encounter problems with Nikon Capture 4 not covered in this section, please consult the README file for the most up-to-date information.

4 Is the IEEE 1394 interface board correctly registered with the system (Windows only)?

Check whether:
- The "IEEE 1394 Bus Controller" is not displayed in the Device Manager
- The IEEE 1394 board is listed under "Other Devices" or "Unknown Devices"
- A yellow or red mark appears next to the listing for the IEEE 1394 board

If any of the above apply, the IEEE 1394 board has not been correctly registered with the system. See the documentation provided with the board for information on device registration.

### Nikon Transfer Does Not Start

If Nikon Transfer fails to start when a supported camera is connected or a memory card from a supported camera inserted in a card reader or PC card slot, check that the memory card is properly inserted in the camera, card reader, or card slot, that the interface cables are properly connected, and the camera is turned on. Note that Nikon Transfer will not start automatically when **Disable auto launch** is selected in the Auto Launch tab of the Nikon Browser or Nikon Viewer Preferences dialog. Nikon Transfer will not start when Nikon Capture 4 Camera Control is running.

### Captured Images are Too Bright, Too Dark, Washed Out, or Out of Focus

- At default settings, Nikon Capture 4 does not modify images when they are captured from the camera. In the General tab of the Preferences dialog, verify that your images are being captured at Nikon Capture's default settings and not at the settings of the last image captured. See "Preferences" for more information. Alternatively, check the settings in the Curves, Color Balance, and Unsharp Mask windows. Choose the reset option from the Settings menu for each window, or turn the Apply button for the window off.

- Are monitor settings correctly adjusted?
  Try adjusting your monitor's contrast/brightness, color system, etc. to be sure that it is properly set for viewing images. See the documentation provided with your monitor for instructions on adjusting monitor settings.

### Thumbnails Are Not Displayed in Nikon Browser

Check that the folder selected in the folder tree contains images or sound files created by a supported model of camera.

### Movies Can Not Be Played Back

Confirm that you have installed a program for playing movies back.

### Unable to Locate Images after Transfer

Check the destination displayed in the Nikon Transfer window.

# Appendix D

This glossary provides definitions of some of the terms used in this manual.

### Bit depth
The number of bits used to express color, also referred to as color depth.  The bit depth determines the amount of color information in an image.  The greater the bit depth, the larger the number of colors, and the finer the gradations, that can be expressed.  Bit depth can be used to refer both to the number of bits per channel and to the combined bit depth for all channels; thus, for example, an image with a bit depth of eight bits per channel can be said to have a bit depth of twenty-four bits.  An image with a bit depth of one bit has only two colors, typically black and white, with no gradation between the two.  *See also* **Channel**.

### Black Point
The input value below which all input tones are mapped to the minimum output value (by default no color, or black).  Any details darker than the black point will be lost.  *See also* **Tone, Tone curve.**

### Channel
The component colors in a given color space.  The RGB color space is made up of red, green, and blue channels and a master channel that combines the three.  *See also* **Color space.**

### Clip
The percentage of pixels at both ends of the curve that are excluded in an auto contrast operation.  *See also* **Tone curve.**

### CMS
*See* **Color management system.**

### CMYK
A reflective (subtractive) color model commonly used in printing, which models color using combinations of the three secondary colors used in printer's ink, **C**yan, **M**agenta and **Y**ellow. Because no combination of these three inks will create a true black, blac**K** ink is also used.

### Color management system
A method of ensuring consistency of color reproduction between devices such as scanners, monitors, and printers, and between different computer platforms.  In the color management system used in Nikon Capture 4, accurate color reproduction is ensured through the use of profiles that provide information about the characteristics of the monitor or printer and the color space used for editing.  *See also* **ColorSync, ICC, Profile.**

### Color space
A general term encompassing both the model used to define color (for example, CMYK or RGB) and the range, or gamut, of colors that can be expressed in a given color model.  *See also* **CMYK, Gamut, RGB.**

### ColorSync
A color management system for Mac OS developed by Apple.  *See also* **Color management system**, **ICC**.

**CompactFlash™ memory card**
A small, removable flash memory card. Used for storage of photographs in Nikon digital cameras.

**Compression**
A method for reducing file sizes for storage or transmission. Compression algorithms can be divided into "lossless" algorithms, such as LZW, in which no information is lost when files are restored to their original size for display or editing, and "lossy" algorithms, such as JPEG, in which some information is lost when the file is restored. *See also* **JPEG, TIFF.**

**Crop**
The portion of the image selected in an image window.

**Curve**
*See* **Tone Curve.**

**Eyedropper**
A tool for sampling white point, black point, or midpoint. *See also* **Black point, Midpoint, White point.**

**FireWire**
Apple's term for the IEEE 1394 interface. *See* **IEEE 1394.**

**Fisheye lens**
A "fisheye" lens is any lens with a view angle of 180 degrees or more. Fisheye lenses may have a view angle of 180 degrees in all directions or only diagonally. Distortion increases towards the edges of the picture, with little or no distortion at the center of the image. The Fisheye Lens palette in Nikon Capture 4 can be used to reduce distortion in images taken with an AF DX Nikkor ED 10.5 mm f/2.8G lens to create an image close to what would be produced by an ordinary wide-angle lens.

**Gamma**
Gamma (also written "γ"), a fundamental property of video systems, determines the intensity of the output signal relative to the input. When calculating gamma, the maximum possible input intensity is assigned a value of one, and the minimum possible intensity (no input) is assigned a value of zero. Output is calculated by raising input to the inverse of the gamma value (output = input$^{(1/\gamma)}$).

**Gamut**
The range of colors that can be expressed by a given input device (for example, scanner or digital camera), output device (monitor or printer), or color profile. No gamut can reproduce all of the colors seen by the human eye. The gamut of primary RGB (**R**ed, **G**reen, and **B**lue) transmitted light displays (film transparencies and color monitors) is very different from, and complementary to, the gamut of secondary CMYK (**C**yan, **M**agenta, **Y**ellow, and blac**K**) reflected light displays (printed materials). *See also* **CMYK, Profile, RGB.**

**Gray point**
*See* **Midpoint.**

## Halo width
The extent of pixels around a selected central pixel affected when Unsharp Mask is applied. Also referred to as "radius." Increasing the halo width increases the width of edges affected by Unsharp Mask. Excessive application of Unsharp Mask results in an undesirable halo along edges in the image. *See also* **Unsharp Mask.**

## Histogram
A bar graph showing the distribution of tones in an image. The horizontal axis shows tone level (brightness), the vertical axis the number of pixels. The bars in the graph show the number of pixels of a given brightness in the image. The histogram displayed in the Curves window shows the distribution of tones for the currently selected channel, and can be used for reference when editing curves. *See also* **Tone, Tone curve.**

## ICC
The International Color Consortium, an international organization working to develop standards for color management and color management profiles. ICC profiles were developed for the conversion of color space information between devices, and are now on their way to becoming a global standard. ICC profiles have been proposed as an International Organization for Standardization (ISO) standard. *See also* **Profile.**

## IEEE 1394
A high-speed transfer protocol developed by the Institute of Electrical and Electronics Engineers for connecting peripherals such as hard disks, MO drives, and digital cameras to a computer via a cable.

## JPEG
A standard graphic format designed by the Joint Photographic Experts Group. Images are compressed using a discrete cosine transform that takes advantage of the properties of human vision, which is more sensitive to light in the lower wavelengths, to increase quantization at lower frequencies. JPEG compression is "lossy," meaning that information is lost when images are compressed, leading to a drop in image quality. A lossless compression option is also supported in some implementations. JPEG images can be compressed to as much as 100:1, though quality will be significantly reduced. At a compression ratio of 20:1, image quality is not noticeably diminished.

## LCD
Liquid Crystal Display. LCDs are notable for their thinness, lightness, and the fact that they consume relatively little energy.

## Midpoint
Controls the output level for mid-tones in the original image. *See also* **Tone, Tone curve.**

## NEF
An abbreviation of Nikon Electronic Image Format, an image file format developed by Nikon to support high-resolution, twelve-bit RAW image data. In Windows, NEF files have the extension ".nef". NEF images can be opened and edited only in Nikon Capture. The advantage of NEF is that while user settings such as curves and color balance are saved, they are not applied to the original image data. NEF images may thus be edited and saved several times without degrading or altering the original image. NEF files however require a relatively large amount of storage space. *See also* **RAW image.**

**Noise**
Data in an image file that are not a part of the original image, the digital equivalent of film grain. The presence of noise is reflected in a loss in image quality. Noise appears primarily in dark areas of the image, and can be reduced by adjusting exposure or lighting to fill in shadows.

**ppcm**
pixels per centimeter, a measure of resolution. The more pixels per centimeter, the higher the resolution. *See also* **ppi, Resolution.**

**ppi**
pixels per inch, a measure of resolution. The more pixels per inch, the higher the resolution. *See also* **ppcm, Resolution.**

**Preferences**
Settings controlling basic operations performed by a given program, adjustable by the user.

**Profile**
A file defining the color characteristics of an input device such as a scanner or digital camera, an output device such as a printer or monitor, or the color space used for editing images. Profiles are used by color management systems to ensure consistent color reproduction. The Nikon Color Management System used in Nikon Capture employs ICC profiles. *See also* **Color space, ICC.**

**RAW image**
A photograph taken at an image quality setting of HI-RAW. "Raw," unmodified image data from the camera's image sensor (charge-coupled display, or CCD) are saved in uncompressed form at a pixel bit-depth of twelve bits per pixel. RAW images can only be opened in Nikon Capture 4, and must be saved again in a standard image format such as TIFF or JPEG before they can be opened in another application. *See also* **NEF.**

**Resolution**
The density of dots or pixels that make up an image, measured in dots per inch (dpi) or pixels per inch (ppi); the resolution of Macintosh monitors, for example, is 72 ppi. The greater the density of dots or pixels, the higher the resolution and the greater the capacity to express detail. Resolution is hence the digital equivalent of film resolving power. Computer monitors typically have a resolution of 72 ppi or 96 ppi, while printers may have resolutions of 300 dpi, 600 dpi, 1200 dpi, or 2400 dpi. *See also* **ppcm, ppi.**

**RGB**
An additive color model commonly used in monitors, in which light emitted in three primary colors, Red, Green and Blue, is combined to create a wide variety of colors. White is modeled by mixing 100% of all three colors.

**Scale**
The output size of an image as a percentage of the input size. At a scale of 50%, images will be output at half their original size.

**Speedlight**
A brand name for Nikon flashes.

## Threshold

The limit up to which Unsharp Mask will be applied. While it is generally the case that the higher the threshold, the greater the amount of sharpening applied, the exact effect depends on other Unsharp Mask settings, such as halo width. *See also* **Halo width, Unsharp Mask.**

## Thumbnail

A small preview image, the digital equivalent of a photographic film contact sheet. Images loaded into Nikon Capture are displayed in a thumbnail list in the Thumbnails section of the Camera Image window.

## TIFF

**T**agged **I**mage **F**ile **F**ormat, an image file format for color or grayscale images, suited to storing bit-mapped images such as digital photographs. In some implementations, TIFF supports "lossless" LZW and packbit compression (in "lossless" compression methods, no information is lost when the image is compressed, as opposed to "lossy" compression methods such as JPEG, in which detail is sacrificed to achieve higher compression ratios). Images saved in TIFF format using Nikon Capture are not compressed. *See also* **Compression, JPEG.**

## Tone

Pixel brightness, measured either as the combined intensity for red, green, and blue or the intensity of each of these colors (channels) individually. The number of tones that can be expressed depends on the bit depth of the image; Nikon Capture 4 supports 256 tone levels per channel at a bit depth of eight bits and 4096 tone levels per channel at a bit depth of twelve bits (data with a bit depth of twelve bits are handled internally as sixteen-bit data). The distribution of tones in the image can be seen in the Curves window histogram. *See also* **Bit depth.**

## Tone curve

A visual tool for editing tones, enhancing brightness and contrast in a selected portion of the tone range. Changing the shape of the tone curve changes the mapping between input (the tones in the original image) and output (tones as they appear after editing). The digital equivalent of a densitometric curve. *See also* **Tone.**

## Unsharp Mask

A filter for increasing the apparent sharpness of bit-mapped images. Sometimes abbreviated as "USM." Unsharp masks emphasize the differences in color and brightness between edges (outlines) and the rest of the image. *See also* **Halo width, Threshold.**

## USB

Universal Serial Bus. A standard for computer serial interfaces which allows automatic "plug-and-play" recognition of peripheral devices and "hot plug" connection of peripherals while the computer or device is on. Depending on the type of interface installed on the computer, USB will operate at high speed (USB 2.0 only), with data transfer rates of up to 480 Mbps, or full speed (USB 1.1, USB 2.0), with data transfer rates of up to 12 Mbps. For more information, consult the manufacturer.

### White balance

The human eye is able to adapt to changes in lighting, and consequently to humans a white object will still look white whether viewed in direct sunlight or under overcast skies, or in-doors under incandescent or fluorescent lighting. A digital camera, in contrast, must adjust colors according to lighting if colors that appear white when viewed directly are also to ap-pear white in the final photograph. This adjustment is called "white balance."

### White point

The input value above which all input tones are mapped to the maximum output value (the default for the master channel is white). Any details brighter than the white point will be lost. *See also* **Tone, Tone curve.**

# Index

# Nikon

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